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SEQUENCE LISTING

<110> Khodadoust, Mehran M.  
 MacBeth, Kyle J.  
 Busfield, Samantha J.  
 McCarthy, Sean A.  
 Holtzman, Douglas A.  
 Gu, Wei  
 White, David  
 Pan, Yang

<120> NOVEL ITALY, LOR-2, STRIFE, TRASH, BDSF, LRSG, AND  
 STMST PROTEIN AND NUCLEIC ACID MOLECULES AND USES  
 THEREFOR

<130> MNI-121CP

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<150> PCT/US00/02125  
 <151> 2000-01-27

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&lt;150&gt; 09/049,799

&lt;151&gt; 1998-03-27

&lt;160&gt; 176

&lt;170&gt; PatentIn Ver. 2.0

&lt;210&gt; 1

&lt;211&gt; 991

&lt;212&gt; DNA

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&lt;220&gt;

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Cys Val Ser Leu Trp Leu Leu Gly Thr Ile Leu Ile Leu Cys Ser Val
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Asp Asn His Gly Leu Arg Arg Cys Leu Ile Ser Thr Asp Met His His
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ata gaa gag agt ttc caa gaa atc aaa aga gcc atc caa gct aag gac      198
Ile Glu Glu Ser Phe Gln Glu Ile Lys Arg Ala Ile Gln Ala Lys Asp
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acc ttc cca aat gtc act atc ctg tcc aca ttg gag act ctg cag atc      246
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tac gtg gac agg gtg ttc aag gat cat cag gag cca aac ccc aaa atc      342
Tyr Val Asp Arg Val Phe Lys Asp His Gln Glu Pro Asn Pro Lys Ile
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Leu Arg Lys Ile Ser Ser Ile Ala Asn Ser Phe Leu Tyr Met Gln Lys
                105                                110                                115

act ctg cgg caa tgt cag gaa cag agg cag tgt cac tgc agg cag gaa      438
Thr Leu Arg Gln Cys Gln Glu Gln Arg Gln Cys His Cys Arg Gln Glu
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gcc acc aat gcc acc aga gtc atc cat gac aac tat gat cag ctg gag      486
Ala Thr Asn Ala Thr Arg Val Ile His Asp Asn Tyr Asp Gln Leu Glu
                135                                140                                145

gtc cac gct gct gcc att aaa tcc ctg gga gag ctc gac gtc ttt cta      534
Val His Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu Asp Val Phe Leu
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 Asp Met His His Ile Glu Glu Ser Phe Gln Glu Ile Lys Arg Ala Ile  
 35 40 45  
 Gln Ala Lys Asp Thr Phe Pro Asn Val Thr Ile Leu Ser Thr Leu Glu  
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 Thr Leu Gln Ile Ile Lys Pro Leu Asp Val Cys Cys Val Thr Lys Asn  
 65 70 75 80  
 Leu Leu Ala Phe Tyr Val Asp Arg Val Phe Lys Asp His Gln Glu Pro  
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 Asn Pro Lys Ile Leu Arg Lys Ile Ser Ser Ile Ala Asn Ser Phe Leu  
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 Tyr Met Gln Lys Thr Leu Arg Gln Cys Gln Glu Gln Arg Gln Cys His  
 115 120 125  
 Cys Arg Gln Glu Ala Thr Asn Ala Thr Arg Val Ile His Asp Asn Tyr  
 130 135 140  
 Asp Gln Leu Glu Val His Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu  
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ttg tgc tca gta gac aac cac ggt ctc agg aga tgt ctg att tcc aca 96  
 Leu Cys Ser Val Asp Asn His Gly Leu Arg Arg Cys Leu Ile Ser Thr  
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 Asp Met His His Ile Glu Glu Ser Phe Gln Glu Ile Lys Arg Ala Ile  
 35 40 45

caa gct aag gac acc ttc cca aat gtc act atc ctg tcc aca ttg gag 192  
 Gln Ala Lys Asp Thr Phe Pro Asn Val Thr Ile Leu Ser Thr Leu Glu  
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act ctg cag atc att aag ccc tta gat gtg tgc tgc gtg acc aag aac 240  
 Thr Leu Gln Ile Ile Lys Pro Leu Asp Val Cys Cys Val Thr Lys Asn  
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ctc ctg gcg ttc tac gtg gac agg gtg ttc aag gat cat cag gag cca 288  
 Leu Leu Ala Phe Tyr Val Asp Arg Val Phe Lys Asp His Gln Glu Pro  
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aac ccc aaa atc ttg aga aaa atc agc agc att gcc aac tct ttc ctc 336  
 Asn Pro Lys Ile Leu Arg Lys Ile Ser Ser Ile Ala Asn Ser Phe Leu  
 100 105 110

tac atg cag aaa act ctg cgg caa tgt cag gaa cag agg cag tgt cac 384  
 Tyr Met Gln Lys Thr Leu Arg Gln Cys Gln Glu Gln Arg Gln Cys His  
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tgc agg cag gaa gcc acc aat gcc acc aga gtc atc cat gac aac tat 432  
 Cys Arg Gln Glu Ala Thr Asn Ala Thr Arg Val Ile His Asp Asn Tyr  
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gat cag ctg gag gtc cac gct gct gcc att aaa tcc ctg gga gag ctc 480  
 Asp Gln Leu Glu Val His Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu  
 145 150 155 160

gac gtc ttt cta gcc tgg att aat aag aat cat gaa gta atg tcc tca 528  
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gct 531  
 Ala

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 Val Thr Ile Leu Ser Thr Leu Glu Thr Leu Gln Ile Ile Lys Pro Leu  
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 Asp Val Cys Cys Val Thr Lys Asn Leu Leu Ala Phe Tyr Val Asp Arg  
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 Val Phe Lys Asp His Gln Glu Pro Asn Pro Lys Ile Leu Arg Lys Ile  
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 Thr Arg Val Ile His Asp Asn Tyr Asp Gln Leu Glu Val His Ala Ala  
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Gln	Ala	Glu	Lys	His	Gly	Pro	Glu	Ile	Lys	Glu	His	Leu	Asn	Ser	Leu
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Asp	Phe	Asn	Lys	Leu	Glu	Asp	Gln	Gly	Val	Tyr	Lys	Ala	Met	Asn	Glu
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Lys Ser

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35 40 45

Ser Arg Val Lys Thr Phe Phe Gln Met Lys Asp Gln Leu Asp Asn Met  
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Gln Ala Leu Ser Glu Met Ile Gln Phe Tyr Leu Glu Glu Val Met Pro  
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Gln Ala Glu Asn His Ser Thr Asp Gln Glu Lys Asp Lys Val Asn Ser  
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Leu Gly Glu Lys Leu Lys Thr Leu Arg Val Arg Leu Arg Arg Cys His  
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Arg Phe Leu Pro Cys Glu Asn Lys Ser Lys Ala Val Glu Gln Val Lys  
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Ser Ala Phe Ser Lys Leu Gln Glu Lys Gly Val Tyr Lys Ala Met Ser  
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Met Lys Asn

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                     35                    40                    45  
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 Arg Leu Leu Lys Pro Gln Val Leu Arg Asn Val Ser Gly Ala Glu Ser  
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 Cys Tyr Leu Ala His Ser Leu Leu Lys Phe Tyr Leu Asn Thr Val Phe  
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 Lys Asn Tyr His Ser Lys Ile Ala Lys Phe Lys Val Leu Arg Ser Phe  
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 Ser Thr Leu Ala Asn Asn Phe Ile Val Ile Met Ser Gln Leu Gln Pro  
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 Ser Lys Asp Asn Ser Met Leu Pro Ile Ser Glu Ser Ala His Gln Arg  
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 Phe Leu Leu Phe Arg Arg Thr Phe Lys Gln Leu Asp Thr Glu Val Ala  
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 Gln Val Lys Gly Val Val Pro Gln Lys Leu Trp Glu Ala Phe Trp Ala  
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 Leu Gln Gln Glu Val Leu Gln Asn Val Ser Asp Ala Glu Ser Cys Tyr  
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 Leu Val His Thr Leu Leu Glu Phe Tyr Leu Lys Thr Val Phe Lys Asn  
                     85                    90                    95  
 Tyr His Asn Arg Thr Val Glu Val Arg Thr Leu Lys Ser Phe Ser Thr  
                     100                    105                    110

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Leu Ala Asn Asn Phe Val Leu Ile Val Ser Gln Leu Gln Pro Ser Gln  
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 Glu Asn Glu Met Phe Ser Ile Arg Asp Ser Ala His Arg Arg Phe Leu  
 130 135 140  
 Leu Phe Arg Arg Ala Phe Lys Gln Leu Asp Val Glu Ala Ala Leu Thr  
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 Met Arg Pro Val Ser Val Trp Gln Trp Ser  
 1 5 10  
 ccc tgg ggg ctg ctg ctg tgc ctg ctg tgc agt tgc tgc ttg ggg tct 220  
 Pro Trp Gly Leu Leu Leu Cys Leu Leu Cys Ser Ser Cys Leu Gly Ser  
 15 20 25  
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 Pro Ser Pro Ser Thr Gly Pro Glu Lys Lys Ala Gly Ser Gln Gly Leu  
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 Arg Phe Arg Leu Ala Gly Phe Pro Arg Lys Pro Tyr Glu Gly Arg Val  
 45 50 55  
 gag ata cag cga gct ggt gaa tgg ggc acc atc tgc gat gat gac ttc 364  
 Glu Ile Gln Arg Ala Gly Glu Trp Gly Thr Ile Cys Asp Asp Asp Phe  
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 Thr Leu Gln Ala Ala His Ile Leu Cys Arg Glu Leu Gly Phe Thr Glu  
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 Ala Thr Gly Trp Thr His Ser Ala Lys Tyr Gly Pro Gly Thr Gly Arg  
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Glu Cys Ala Ser Arg Gly Trp Gly Asn Ser Asp Cys Thr His Asp Glu	
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Asp Ala Gly Val Ile Cys Lys Asp Gln Arg Leu Pro Gly Phe Ser Asp	
140 145 150	
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Ser Asn Val Ile Glu Val Glu His His Leu Gln Val Glu Glu Val Arg	
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Gly Leu Val Glu Val Arg Leu Pro Asp Gly Trp Ser Gln Val Cys Asp	
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 aaa ggc tgg agc gcc cac aac agc cac gtg gtc tgc ggg atg ctg ggc	796
Lys Gly Trp Ser Ala His Asn Ser His Val Val Cys Gly Met Leu Gly	
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Phe Pro Ser Glu Lys Arg Val Asn Ala Ala Phe Tyr Arg Leu Leu Ala	
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Gln Arg Gln Gln His Ser Phe Gly Leu His Gly Val Ala Cys Val Gly	
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Ser Lys Pro Gln Gly Glu Ala Arg Val Arg Leu Lys Gly Gly Ala His	
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Gly Gln Gly Met Gly Ala Ile His Leu Ser Glu Val Arg Cys Ser Gly	
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Gln Glu Leu Ser Leu Trp Lys Cys Pro His Lys Asn Ile Thr Ala Glu	
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Cys Arg Gln Leu Gly Leu Gly Tyr Ala Asn His Gly Leu Gln Glu Thr	
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Arg Cys Thr Gly Thr Glu Leu Ser Leu Asp Gln Cys Ala His His Gly	
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Thr His Ile Thr Cys Lys Arg Thr Gly Thr Arg Phe Thr Ala Gly Val	
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Ile Cys Ser Glu Thr Ala Ser Asp Leu Leu Leu His Ser Ala Leu Val	
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Gln Glu Thr Ala Tyr Ile Glu Asp Arg Pro Leu His Met Leu Tyr Cys	
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                   635                                  640                                  645                                  650

cgg tat gag tgt gcc aac ttt gga gag caa ggc atc act gtg ggt tgc 2140  
 Arg Tyr Glu Cys Ala Asn Phe Gly Glu Gln Gly Ile Thr Val Gly Cys  
                                   655                                  660                                  665

tgg gat ctc tac cgg cat gac att gac tgt cag tgg att gac atc acg 2188  
 Trp Asp Leu Tyr Arg His Asp Ile Asp Cys Gln Trp Ile Asp Ile Thr  
                   670                                  675                                  680

gat gtg aag cca gga aac tac att ctc cag gtt gtc atc aac cca aac 2236  
 Asp Val Lys Pro Gly Asn Tyr Ile Leu Gln Val Val Ile Asn Pro Asn  
                   685                                  690                                  695

ttt gaa gta gca gag agt gac ttt acc aac aat gca atg aaa tgt aac 2284  
 Phe Glu Val Ala Glu Ser Asp Phe Thr Asn Asn Ala Met Lys Cys Asn  
                   700                                  705                                  710

tgc aaa tat gat gga cat aga atc tgg gtg cac aac tgc cac att ggt 2332  
 Cys Lys Tyr Asp Gly His Arg Ile Trp Val His Asn Cys His Ile Gly  
                   715                                  720                                  725                                  730

gat gcc ttc agt gaa gag gcc aac agg agg ttt gaa cgc tac cct ggc 2380  
 Asp Ala Phe Ser Glu Glu Ala Asn Arg Arg Phe Glu Arg Tyr Pro Gly  
                                   735                                  740                                  745

cag acc agc aac cag att atc taagtgccac tgccctctgc aaaccaccac 2431  
 Gln Thr Ser Asn Gln Ile Ile  
                                   750

tggccccctaa tggcaggggt ctgaggctgc cattacctca ggagcttacc aagaaaccca 2491

tgtcageaac cgcactcatc agaccatgca ctatggatgt ggaactgtca agcagaagtt 2551

ttcaccctcc ttcagaggcc agctgtcagt atctgtagcc aagcatggga atctttgctc 2611

ccaggcccag caccgagcag aacagaccag agcccaccac accacaaaga gcagcacctg 2671

actaactgcc cacaaaagat ggcagcagct ctttttcttt aataggaggt caggatggtc 2731

agctccagta tctcccctaa gtttaggggg atacagcttt acctctagcc ttttggtggg 2791

ggaaaagatc cagccctccc acctcatttt ttactataat atgttgctag gtataatttt 2851

attttatata aaaagtgttt ctgtgattct tcagaaaaaa aaaaaaaaaa aaaaaaaaaa 2911

- 13 -

aaaaaaaaa

2920

<210> 11  
 <211> 753  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 11

Met Arg Pro Val Ser Val Trp Gln Trp Ser Pro Trp Gly Leu Leu Leu  
 1 5 10 15

Cys Leu Leu Cys Ser Ser Cys Leu Gly Ser Pro Ser Pro Ser Thr Gly  
 20 25 30

Pro Glu Lys Lys Ala Gly Ser Gln Gly Leu Arg Phe Arg Leu Ala Gly  
 35 40 45

Phe Pro Arg Lys Pro Tyr Glu Gly Arg Val Glu Ile Gln Arg Ala Gly  
 50 55 60

Glu Trp Gly Thr Ile Cys Asp Asp Asp Phe Thr Leu Gln Ala Ala His  
 65 70 75 80

Ile Leu Cys Arg Glu Leu Gly Phe Thr Glu Ala Thr Gly Trp Thr His  
 85 90 95

Ser Ala Lys Tyr Gly Pro Gly Thr Gly Arg Ile Trp Leu Asp Asn Leu  
 100 105 110

Ser Cys Ser Gly Thr Glu Gln Ser Val Thr Glu Cys Ala Ser Arg Gly  
 115 120 125

Trp Gly Asn Ser Asp Cys Thr His Asp Glu Asp Ala Gly Val Ile Cys  
 130 135 140

Lys Asp Gln Arg Leu Pro Gly Phe Ser Asp Ser Asn Val Ile Glu Val  
 145 150 155 160

Glu His His Leu Gln Val Glu Glu Val Arg Ile Arg Pro Ala Val Gly  
 165 170 175

Trp Gly Arg Arg Pro Leu Pro Val Thr Glu Gly Leu Val Glu Val Arg  
 180 185 190

Leu Pro Asp Gly Trp Ser Gln Val Cys Asp Lys Gly Trp Ser Ala His  
 195 200 205

Asn Ser His Val Val Cys Gly Met Leu Gly Phe Pro Ser Glu Lys Arg  
 210 215 220

Val Asn Ala Ala Phe Tyr Arg Leu Leu Ala Gln Arg Gln Gln His Ser  
 225 230 235 240

Phe Gly Leu His Gly Val Ala Cys Val Gly Thr Glu Ala His Leu Ser  
 245 250 255

Leu Cys Ser Leu Glu Phe Tyr Arg Ala Asn Asp Thr Ala Arg Cys Pro  
 260 265 270

- 14 -

Gly Gly Gly Pro Ala Val Val Ser Cys Val Pro Gly Pro Val Tyr Ala  
 275 280 285  
 Ala Ser Ser Gly Gln Lys Lys Gln Gln Gln Ser Lys Pro Gln Gly Glu  
 290 295 300  
 Ala Arg Val Arg Leu Lys Gly Gly Ala His Pro Gly Glu Gly Arg Val  
 305 310 315 320  
 Glu Val Leu Lys Ala Ser Thr Trp Gly Thr Val Cys Asp Arg Lys Trp  
 325 330 335  
 Asp Leu His Ala Ala Ser Val Val Cys Arg Glu Leu Gly Phe Gly Ser  
 340 345 350  
 Ala Arg Glu Ala Leu Ser Gly Ala Arg Met Gly Gln Gly Met Gly Ala  
 355 360 365  
 Ile His Leu Ser Glu Val Arg Cys Ser Gly Gln Glu Leu Ser Leu Trp  
 370 375 380  
 Lys Cys Pro His Lys Asn Ile Thr Ala Glu Asp Cys Ser His Ser Gln  
 385 390 395 400  
 Asp Ala Gly Val Arg Cys Asn Leu Pro Tyr Thr Gly Ala Glu Thr Arg  
 405 410 415  
 Ile Arg Leu Ser Gly Gly Arg Ser Gln His Glu Gly Arg Val Glu Val  
 420 425 430  
 Gln Ile Gly Gly Pro Gly Pro Leu Arg Trp Gly Leu Ile Cys Gly Asp  
 435 440 445  
 Asp Trp Gly Thr Leu Glu Ala Met Val Ala Cys Arg Gln Leu Gly Leu  
 450 455 460  
 Gly Tyr Ala Asn His Gly Leu Gln Glu Thr Trp Tyr Trp Asp Ser Gly  
 465 470 475 480  
 Asn Ile Thr Glu Val Val Met Ser Gly Val Arg Cys Thr Gly Thr Glu  
 485 490 495  
 Leu Ser Leu Asp Gln Cys Ala His His Gly Thr His Ile Thr Cys Lys  
 500 505 510  
 Arg Thr Gly Thr Arg Phe Thr Ala Gly Val Ile Cys Ser Glu Thr Ala  
 515 520 525  
 Ser Asp Leu Leu Leu His Ser Ala Leu Val Gln Glu Thr Ala Tyr Ile  
 530 535 540  
 Glu Asp Arg Pro Leu His Met Leu Tyr Cys Ala Ala Glu Glu Asn Cys  
 545 550 555 560  
 Leu Ala Ser Ser Ala Arg Ser Ala Asn Trp Pro Tyr Gly His Arg Arg  
 565 570 575  
 Leu Leu Arg Phe Ser Ser Gln Ile His Asn Leu Gly Arg Ala Asp Phe  
 580 585 590

- 15 -

Arg Pro Lys Ala Gly Arg His Ser Trp Val Trp His Glu Cys His Gly  
 595 600 605  
 His Tyr His Ser Met Asp Ile Phe Thr His Tyr Asp Ile Leu Thr Pro  
 610 615 620  
 Asn Gly Thr Lys Val Ala Glu Gly His Lys Ala Ser Phe Cys Leu Glu  
 625 630 635 640  
 Asp Thr Glu Cys Gln Glu Asp Val Ser Lys Arg Tyr Glu Cys Ala Asn  
 645 650 655  
 Phe Gly Glu Gln Gly Ile Thr Val Gly Cys Trp Asp Leu Tyr Arg His  
 660 665 670  
 Asp Ile Asp Cys Gln Trp Ile Asp Ile Thr Asp Val Lys Pro Gly Asn  
 675 680 685  
 Tyr Ile Leu Gln Val Val Ile Asn Pro Asn Phe Glu Val Ala Glu Ser  
 690 695 700  
 Asp Phe Thr Asn Asn Ala Met Lys Cys Asn Cys Lys Tyr Asp Gly His  
 705 710 715 720  
 Arg Ile Trp Val His Asn Cys His Ile Gly Asp Ala Phe Ser Glu Glu  
 725 730 735  
 Ala Asn Arg Arg Phe Glu Arg Tyr Pro Gly Gln Thr Ser Asn Gln Ile  
 740 745 750

Ile

<210> 12  
 <211> 2262  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(2259)

<400> 12  
 atg cga cct gtc agt gtc tgg cag tgg agc ccc tgg ggg ctg ctg ctg 48  
 Met Arg Pro Val Ser Val Trp Gln Trp Ser Pro Trp Gly Leu Leu Leu  
 1 5 10 15  
 tgc ctg ctg tgc agt tgc tgc ttg ggg tct ccg tcc cct tcc acg ggc 96  
 Cys Leu Leu Cys Ser Ser Cys Leu Gly Ser Pro Ser Pro Ser Thr Gly  
 20 25 30  
 cct gag aag aag gcc ggg agc cag ggg ctt cgg ttc cgg ctg gct ggc 144  
 Pro Glu Lys Lys Ala Gly Ser Gln Gly Leu Arg Phe Arg Leu Ala Gly  
 35 40 45  
 ttc ccc agg aag ccc tac gag ggc cgc gtg gag ata cag cga gct ggt 192  
 Phe Pro Arg Lys Pro Tyr Glu Gly Arg Val Glu Ile Gln Arg Ala Gly  
 50 55 60

- 16 -

gaa tgg ggc acc atc tgc gat gat gac ttc acg ctg cag gct gcc cac	240
Glu Trp Gly Thr Ile Cys Asp Asp Asp Phe Thr Leu Gln Ala Ala His	
65 70 75 80	
atc ctc tgc cgg gag ctg ggc ttc aca gag gcc aca ggc tgg acc cac	288
Ile Leu Cys Arg Glu Leu Gly Phe Thr Glu Ala Thr Gly Trp Thr His	
85 90 95	
agt gcc aaa tat ggc cct gga aca ggc cgc atc tgg ctg gac aac ttg	336
Ser Ala Lys Tyr Gly Pro Gly Thr Gly Arg Ile Trp Leu Asp Asn Leu	
100 105 110	
agc tgc agt ggg acc gag cag agt gtg act gaa tgt gcc tcc cgg ggc	384
Ser Cys Ser Gly Thr Glu Gln Ser Val Thr Glu Cys Ala Ser Arg Gly	
115 120 125	
tgg ggg aac agt gac tgt acg cac gat gag gat gct ggg gtc atc tgc	432
Trp Gly Asn Ser Asp Cys Thr His Asp Glu Asp Ala Gly Val Ile Cys	
130 135 140	
aaa gac cag cgc ctc cct ggc ttc tcg gac tcc aat gtc att gag gta	480
Lys Asp Gln Arg Leu Pro Gly Phe Ser Asp Ser Asn Val Ile Glu Val	
145 150 155 160	
gag cat cac ctg caa gtg gag gag gtg cga att cga ccc gcc gtt ggg	528
Glu His His Leu Gln Val Glu Glu Val Arg Ile Arg Pro Ala Val Gly	
165 170 175	
tgg ggc aga cga ccc ctg ccc gtg acg gag ggg ctg gtg gaa gtc agg	576
Trp Gly Arg Arg Pro Leu Pro Val Thr Glu Gly Leu Val Glu Val Arg	
180 185 190	
ctt cct gac ggc tgg tcg caa gtg tgc gac aaa ggc tgg agc gcc cac	624
Leu Pro Asp Gly Trp Ser Gln Val Cys Asp Lys Gly Trp Ser Ala His	
195 200 205	
aac agc cac gtg gtc tgc ggg atg ctg ggc ttc ccc agc gaa aag agg	672
Asn Ser His Val Val Cys Gly Met Leu Gly Phe Pro Ser Glu Lys Arg	
210 215 220	
gtc aac gcg gcc ttc tac agg ctg cta gcc caa cgg cag caa cac tcc	720
Val Asn Ala Ala Phe Tyr Arg Leu Leu Ala Gln Arg Gln Gln His Ser	
225 230 235 240	
ttt ggt ctg cat ggg gtg gcg tgc gtg ggc acg gag gcc cac ctc tcc	768
Phe Gly Leu His Gly Val Ala Cys Val Gly Thr Glu Ala His Leu Ser	
245 250 255	
ctc tgt tcc ctg gag ttc tat cgt gcc aat gac acc gcc agg tgc cct	816
Leu Cys Ser Leu Glu Phe Tyr Arg Ala Asn Asp Thr Ala Arg Cys Pro	
260 265 270	
ggg ggg ggc cct gca gtg gtg agc tgt gtg cca ggc cct gtc tac gcg	864
Gly Gly Gly Pro Ala Val Val Ser Cys Val Pro Gly Pro Val Tyr Ala	
275 280 285	
gca tcc agt ggc cag aag aag caa caa cag tcg aag cct cag ggg gag	912
Ala Ser Ser Gly Gln Lys Lys Gln Gln Gln Ser Lys Pro Gln Gly Glu	
290 295 300	

- 17 -

gcc cgt gtc cgt cta aag ggc ggc gcc cac cct gga gag ggc cgg gta	960
Ala Arg Val Arg Leu Lys Gly Gly Ala His Pro Gly Glu Gly Arg Val	
305 310 315 320	
gaa gtc ctg aag gcc agc aca tgg ggc aca gtc tgt gac cgc aag tgg	1008
Glu Val Leu Lys Ala Ser Thr Trp Gly Thr Val Cys Asp Arg Lys Trp	
325 330 335	
gac ctg cat gca gcc agc gtg gtg tgt cgg gag ctg ggc ttc ggg agt	1056
Asp Leu His Ala Ala Ser Val Val Cys Arg Glu Leu Gly Phe Gly Ser	
340 345 350	
gct cga gaa gct ctg agt ggc gct cgc atg ggg cag ggc atg ggt gct	1104
Ala Arg Glu Ala Leu Ser Gly Ala Arg Met Gly Gln Gly Met Gly Ala	
355 360 365	
atc cac ctg agt gaa gtt cgc tgc tct gga cag gag ctc tcc ctc tgg	1152
Ile His Leu Ser Glu Val Arg Cys Ser Gly Gln Glu Leu Ser Leu Trp	
370 375 380	
aag tgc ccc cac aag aac atc aca gct gag gat tgt tca cat agc cag	1200
Lys Cys Pro His Lys Asn Ile Thr Ala Glu Asp Cys Ser His Ser Gln	
385 390 395 400	
gat gcc ggg gtc cgg tgc aac cta cct tac act ggg gca gag acc agg	1248
Asp Ala Gly Val Arg Cys Asn Leu Pro Tyr Thr Gly Ala Glu Thr Arg	
405 410 415	
atc cga ctc agt ggg ggc cgc agc caa cat gag ggg cga gtc gag gtg	1296
Ile Arg Leu Ser Gly Gly Arg Ser Gln His Glu Gly Arg Val Glu Val	
420 425 430	
caa ata ggg gga cct ggg ccc ctt cgc tgg ggc ctc atc tgt ggg gat	1344
Gln Ile Gly Gly Pro Gly Pro Leu Arg Trp Gly Leu Ile Cys Gly Asp	
435 440 445	
gac tgg ggg acc ctg gag gcc atg gtg gcc tgt agg caa ctg ggt ctg	1392
Asp Trp Gly Thr Leu Glu Ala Met Val Ala Cys Arg Gln Leu Gly Leu	
450 455 460	
ggc tac gcc aac cac ggc ctg cag gag acc tgg tac tgg gac tct ggg	1440
Gly Tyr Ala Asn His Gly Leu Gln Glu Thr Trp Tyr Trp Asp Ser Gly	
465 470 475 480	
aat ata aca gag gtg gtg atg agt gga gtg cgc tgc aca ggg act gag	1488
Asn Ile Thr Glu Val Val Met Ser Gly Val Arg Cys Thr Gly Thr Glu	
485 490 495	
ctg tcc ctg gat cag tgt gcc cat cat ggc acc cac atc acc tgc aag	1536
Leu Ser Leu Asp Gln Cys Ala His His Gly Thr His Ile Thr Cys Lys	
500 505 510	
agg aca ggg acc cgc ttc act gct gga gtc atc tgt tct gag act gca	1584
Arg Thr Gly Thr Arg Phe Thr Ala Gly Val Ile Cys Ser Glu Thr Ala	
515 520 525	
tca gat ctg ttg ctg cac tca gca ctg gtg cag gag acc gcc tac atc	1632
Ser Asp Leu Leu Leu His Ser Ala Leu Val Gln Glu Thr Ala Tyr Ile	
530 535 540	

- 18 -

gaa gac cgg ccc ctg cat atg ttg tac tgt gct gcg gaa gag aac tgc	1680
Glu Asp Arg Pro Leu His Met Leu Tyr Cys Ala Ala Glu Glu Asn Cys	
545 550 555 560	
ctg gcc agc tca gcc cgc tca gcc aac tgg ccc tat ggt cac cgg cgt	1728
Leu Ala Ser Ser Ala Arg Ser Ala Asn Trp Pro Tyr Gly His Arg Arg	
565 570 575	
ctg ctc cga ttc tcc tcc cag atc cac aac ctg gga cga gct gac ttc	1776
Leu Leu Arg Phe Ser Ser Gln Ile His Asn Leu Gly Arg Ala Asp Phe	
580 585 590	
agg ccc aag gct ggg cgc cac tcc tgg gtg tgg cac gag tgc cat ggg	1824
Arg Pro Lys Ala Gly Arg His Ser Trp Val Trp His Glu Cys His Gly	
595 600 605	
cat tac cac agc atg gac atc ttc act cac tat gat atc ctc acc cca	1872
His Tyr His Ser Met Asp Ile Phe Thr His Tyr Asp Ile Leu Thr Pro	
610 615 620	
aat ggc acc aag gtg gct gag ggc cac aaa gct agt ttc tgt ctc gaa	1920
Asn Gly Thr Lys Val Ala Glu Gly His Lys Ala Ser Phe Cys Leu Glu	
625 630 635 640	
gac act gag tgt cag gag gat gtc tcc aag cgg tat gag tgt gcc aac	1968
Asp Thr Glu Cys Gln Glu Asp Val Ser Lys Arg Tyr Glu Cys Ala Asn	
645 650 655	
ttt gga gag caa ggc atc act gtg ggt tgc tgg gat ctc tac cgg cat	2016
Phe Gly Glu Gln Gly Ile Thr Val Gly Cys Trp Asp Leu Tyr Arg His	
660 665 670	
gac att gac tgt cag tgg att gac atc acg gat gtg aag cca gga aac	2064
Asp Ile Asp Cys Gln Trp Ile Asp Ile Thr Asp Val Lys Pro Gly Asn	
675 680 685	
tac att ctc cag gtt gtc atc aac cca aac ttt gaa gta gca gag agt	2112
Tyr Ile Leu Gln Val Val Ile Asn Pro Asn Phe Glu Val Ala Glu Ser	
690 695 700	
gac ttt acc aac aat gca atg aaa tgt aac tgc aaa tat gat gga cat	2160
Asp Phe Thr Asn Asn Ala Met Lys Cys Asn Cys Lys Tyr Asp Gly His	
705 710 715 720	
aga atc tgg gtg cac aac tgc cac att ggt gat gcc ttc agt gaa gag	2208
Arg Ile Trp Val His Asn Cys His Ile Gly Asp Ala Phe Ser Glu Glu	
725 730 735	
gcc aac agg agg ttt gaa cgc tac cct ggc cag acc agc aac cag att	2256
Ala Asn Arg Arg Phe Glu Arg Tyr Pro Gly Gln Thr Ser Asn Gln Ile	
740 745 750	
atc taa	2262
Ile	

&lt;210&gt; 13

&lt;211&gt; 38

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

- 19 -

&lt;220&gt;

<223> Description of Artificial Sequence: (SRRD)  
consensus sequence

&lt;220&gt;

&lt;223&gt; Any occurrences of Xaa may be any amino acid

&lt;400&gt; 13

Gly	Xaa	Xaa	Xaa	Xaa	Xaa	Gly	Xaa	Xaa	Glu	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10					15	

Trp	Gly	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
			20					25						30	

Xaa	Cys	Xaa	Xaa	Xaa	Gly
			35		

&lt;210&gt; 14

&lt;211&gt; 417

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 14

Met	Arg	Phe	Ala	Trp	Thr	Val	Leu	Leu	Leu	Gly	Pro	Leu	Gln	Leu	Cys
1				5						10				15	

Ala	Leu	Val	His	Cys	Ala	Pro	Pro	Ala	Ala	Gly	Gln	Gln	Gln	Pro	Pro
			20					25						30	

Arg	Glu	Pro	Pro	Ala	Ala	Pro	Gly	Ala	Trp	Arg	Gln	Gln	Ile	Gln	Trp
		35					40					45			

Glu	Asn	Asn	Gly	Gln	Val	Phe	Ser	Leu	Leu	Ser	Leu	Gly	Ser	Gln	Tyr
	50					55					60				

Gln	Pro	Gln	Arg	Arg	Arg	Asp	Pro	Gly	Ala	Ala	Val	Pro	Gly	Ala	Ala
	65				70					75					80

Asn	Ala	Ser	Ala	Gln	Gln	Pro	Arg	Thr	Pro	Ile	Leu	Leu	Ile	Arg	Asp
				85					90					95	

Asn	Arg	Thr	Ala	Ala	Gly	Arg	Thr	Arg	Thr	Ala	Gly	Ser	Ser	Gly	Val
		100						105					110		

Thr	Ala	Gly	Arg	Pro	Arg	Pro	Thr	Ala	Arg	His	Trp	Phe	Gln	Ala	Gly
		115					120					125			

Tyr	Ser	Thr	Ser	Arg	Ala	Arg	Glu	Ala	Gly	Pro	Ser	Arg	Ala	Glu	Asn
	130					135					140				

Gln	Thr	Ala	Pro	Gly	Glu	Val	Pro	Ala	Leu	Ser	Asn	Leu	Arg	Pro	Pro
	145				150					155				160	

Ser	Arg	Val	Asp	Gly	Met	Val	Gly	Asp	Asp	Pro	Tyr	Asn	Pro	Tyr	Lys
				165					170					175	

- 20 -

Tyr Ser Asp Asp Asn Pro Tyr Tyr Asn Tyr Tyr Asp Thr Tyr Glu Arg  
 180 185 190  
 Pro Arg Pro Gly Gly Arg Tyr Arg Pro Gly Tyr Gly Thr Gly Tyr Phe  
 195 200 205  
 Gln Tyr Gly Leu Pro Asp Leu Val Ala Asp Pro Tyr Tyr Ile Gln Ala  
 210 215 220  
 Ser Thr Tyr Val Gln Lys Met Ser Met Tyr Asn Leu Arg Cys Ala Ala  
 225 230 235 240  
 Glu Glu Asn Cys Leu Ala Ser Thr Ala Tyr Arg Ala Asp Val Arg Asp  
 245 250 255  
 Tyr Asp His Arg Val Leu Leu Arg Phe Pro Gln Arg Val Lys Asn Gln  
 260 265 270  
 Gly Thr Ser Asp Phe Leu Pro Ser Arg Pro Arg Tyr Ser Trp Glu Trp  
 275 280 285  
 His Ser Cys His Gln His Tyr His Ser Met Asp Glu Phe Ser His Tyr  
 290 295 300  
 Asp Leu Leu Asp Ala Asn Thr Gln Arg Arg Val Ala Glu Gly His Lys  
 305 310 315 320  
 Ala Ser Phe Cys Leu Glu Asp Thr Ser Cys Asp Tyr Gly Tyr His Arg  
 325 330 335  
 Arg Phe Ala Cys Thr Ala His Thr Gln Gly Leu Ser Pro Gly Cys Tyr  
 340 345 350  
 Asp Thr Tyr Gly Ala Asp Ile Asp Cys Gln Trp Ile Asp Ile Thr Asp  
 355 360 365  
 Val Lys Pro Gly Asn Tyr Ile Leu Lys Val Ser Val Asn Pro Ser Tyr  
 370 375 380  
 Leu Val Pro Glu Ser Asp Tyr Thr Asn Asn Val Val Arg Cys Asp Ile  
 385 390 395 400  
 Arg Tyr Thr Gly His His Ala Tyr Ala Ser Gly Cys Thr Ile Ser Pro  
 405 410 415  
 Tyr

&lt;210&gt; 15

&lt;211&gt; 574

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 15

Met Ala Leu Ala Arg Gly Ser Arg Gln Leu Gly Ala Leu Val Trp Gly  
 1 5 10 15

Ala Cys Leu Cys Val Leu Val His Gly Gln Gln Ala Gln Pro Gly Gln  
 20 25 30

- 21 -

Gly Ser Asp Pro Ala Arg Trp Arg Gln Leu Ile Gln Trp Glu Asn Asn  
                   35                                  40                                  45

Gly Gln Val Tyr Ser Leu Leu Asn Ser Gly Ser Glu Tyr Val Pro Ala  
           50                                  55                                  60

Gly Pro Gln Arg Ser Glu Ser Ser Ser Arg Val Leu Leu Ala Gly Ala  
   65                                  70                                  75                                  80

Pro Gln Ala Gln Gln Arg Arg Ser His Gly Ser Pro Arg Arg Arg Gln  
                                   85                                  90                                  95

Ala Pro Ser Leu Pro Leu Pro Gly Arg Val Gly Ser Asp Thr Val Arg  
                   100                                  105                                  110

Gly Gln Ala Arg His Pro Phe Gly Phe Gly Gln Val Pro Asp Asn Trp  
           115                                  120                                  125

Arg Glu Val Ala Val Gly Asp Ser Thr Gly Met Ala Leu Ala Arg Thr  
   130                                  135                                  140

Ser Val Ser Gln Gln Arg His Gly Gly Ser Ala Ser Ser Val Ser Ala  
   145                                  150                                  155                                  160

Ser Ala Phe Ala Ser Thr Tyr Arg Gln Gln Pro Ser Tyr Pro Gln Gln  
                   165                                  170                                  175

Phe Pro Tyr Pro Gln Ala Pro Phe Val Ser Gln Tyr Glu Asn Tyr Asp  
                   180                                  185                                  190

Pro Ala Ser Arg Thr Tyr Asp Gln Gly Phe Val Tyr Tyr Arg Pro Ala  
                   195                                  200                                  205

Gly Gly Gly Val Gly Ala Gly Ala Ala Ala Val Ala Ser Ala Gly Val  
   210                                  215                                  220

Ile Tyr Pro Tyr Gln Pro Arg Ala Arg Tyr Glu Glu Tyr Gly Gly Gly  
   225                                  230                                  235                                  240

Glu Glu Leu Pro Glu Tyr Pro Pro Gln Gly Phe Tyr Pro Ala Pro Glu  
                   245                                  250                                  255

Arg Pro Tyr Val Pro Pro Pro Pro Pro Pro Asp Gly Leu Asp Arg  
                   260                                  265                                  270

Arg Tyr Ser His Ser Leu Tyr Ser Glu Gly Thr Pro Gly Phe Glu Gln  
                   275                                  280                                  285

Ala Tyr Pro Asp Pro Gly Pro Glu Ala Ala Gln Ala His Gly Gly Asp  
   290                                  295                                  300

Pro Arg Leu Gly Trp Tyr Pro Pro Tyr Ala Asn Pro Pro Pro Glu Ala  
   305                                  310                                  315                                  320

Tyr Gly Pro Pro Arg Ala Leu Glu Pro Pro Tyr Leu Pro Val Arg Ser  
                   325                                  330                                  335

Ser Asp Thr Pro Pro Pro Gly Gly Glu Arg Asn Gly Ala Gln Gln Gly  
                   340                                  345                                  350

- 22 -

Arg Leu Ser Val Gly Ser Val Tyr Arg Pro Asn Gln Asn Gly Arg Gly  
 355 360 365  
 Leu Pro Asp Leu Val Pro Asp Pro Asn Tyr Val Gln Ala Ser Thr Tyr  
 370 375 380  
 Val Gln Arg Ala His Leu Tyr Ser Leu Arg Cys Ala Ala Glu Glu Lys  
 385 390 395 400  
 Cys Leu Ala Ser Thr Ala Tyr Ala Pro Glu Ala Thr Asp Tyr Asp Val  
 405 410 415  
 Arg Val Leu Leu Arg Phe Pro Gln Arg Val Lys Asn Gln Gly Thr Ala  
 420 425 430  
 Asp Phe Leu Pro Asn Arg Pro Arg His Thr Trp Glu Trp His Ser Cys  
 435 440 445  
 His Gln His Tyr His Ser Met Asp Glu Phe Ser His Tyr Asp Leu Leu  
 450 455 460  
 Asp Ala Ala Thr Gly Lys Lys Val Ala Glu Gly His Lys Ala Ser Phe  
 465 470 475 480  
 Cys Leu Glu Asp Ser Thr Cys Asp Phe Gly Asn Leu Lys Arg Tyr Ala  
 485 490 495  
 Cys Thr Ser His Thr Gln Gly Leu Ser Pro Gly Cys Tyr Asp Thr Tyr  
 500 505 510  
 Asn Ala Asp Ile Asp Cys Gln Trp Ile Asp Ile Thr Asp Val Gln Pro  
 515 520 525  
 Gly Asn Tyr Ile Leu Lys Val His Val Asn Pro Lys Tyr Ile Val Leu  
 530 535 540  
 Glu Ser Asp Phe Thr Asn Asn Val Val Arg Cys Asn Ile His Tyr Thr  
 545 550 555 560  
 Gly Arg Tyr Val Ser Ala Thr Asn Cys Lys Ile Val Gln Ser  
 565 570

&lt;210&gt; 16

&lt;211&gt; 774

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 16

Met Glu Arg Pro Leu Cys Ser His Leu Cys Ser Cys Leu Ala Met Leu  
 1 5 10 15

Ala Leu Leu Ser Pro Leu Ser Leu Ala Gln Tyr Asp Ser Trp Pro His  
 20 25 30

Tyr Pro Glu Tyr Phe Gln Gln Pro Ala Pro Glu Tyr His Gln Pro Gln  
 35 40 45

- 23 -

Ala	Pro	Ala	Asn	Val	Ala	Lys	Ile	Gln	Leu	Arg	Leu	Ala	Gly	Gln	Lys
50						55					60				
Arg	Lys	His	Ser	Glu	Gly	Arg	Val	Glu	Val	Tyr	Tyr	Asp	Gly	Gln	Trp
65					70					75					80
Gly	Thr	Val	Cys	Asp	Asp	Asp	Phe	Ser	Ile	His	Ala	Ala	His	Val	Val
				85					90					95	
Cys	Arg	Glu	Leu	Gly	Tyr	Val	Glu	Ala	Lys	Ser	Trp	Thr	Ala	Ser	Ser
			100					105					110		
Ser	Tyr	Gly	Lys	Gly	Glu	Gly	Pro	Ile	Trp	Leu	Asp	Asn	Leu	His	Cys
		115					120					125			
Thr	Gly	Asn	Glu	Ala	Thr	Leu	Ala	Ala	Cys	Thr	Ser	Asn	Gly	Trp	Gly
	130					135					140				
Val	Thr	Asp	Cys	Lys	His	Thr	Glu	Asp	Val	Gly	Val	Val	Cys	Ser	Asp
145					150					155					160
Lys	Arg	Ile	Pro	Gly	Phe	Lys	Phe	Asp	Asn	Ser	Leu	Ile	Asn	Gln	Ile
				165					170					175	
Glu	Asn	Leu	Asn	Ile	Gln	Val	Glu	Asp	Ile	Arg	Ile	Arg	Ala	Ile	Leu
			180					185					190		
Ser	Thr	Tyr	Arg	Lys	Arg	Thr	Pro	Val	Met	Glu	Gly	Tyr	Val	Glu	Val
		195					200					205			
Lys	Glu	Gly	Lys	Thr	Trp	Lys	Gln	Ile	Cys	Asp	Lys	His	Trp	Thr	Ala
	210					215					220				
Lys	Asn	Ser	Arg	Val	Val	Cys	Gly	Met	Phe	Gly	Phe	Pro	Gly	Glu	Arg
225					230					235					240
Thr	Tyr	Asn	Thr	Lys	Val	Tyr	Lys	Met	Phe	Ala	Ser	Arg	Arg	Lys	Gln
				245					250					255	
Arg	Tyr	Trp	Pro	Phe	Ser	Met	Asp	Cys	Thr	Gly	Thr	Glu	Ala	His	Ile
			260					265					270		
Ser	Ser	Cys	Lys	Leu	Gly	Pro	Gln	Val	Ser	Leu	Asp	Pro	Met	Lys	Asn
		275					280					285			
Val	Thr	Cys	Glu	Asn	Gly	Leu	Pro	Ala	Val	Val	Ser	Cys	Val	Pro	Gly
	290					295					300				
Gln	Val	Phe	Ser	Pro	Asp	Gly	Pro	Ser	Arg	Phe	Arg	Lys	Ala	Tyr	Lys
305					310					315					320
Pro	Glu	Gln	Pro	Leu	Val	Arg	Leu	Arg	Gly	Gly	Ala	Tyr	Ile	Gly	Glu
				325					330					335	
Gly	Arg	Val	Glu	Val	Leu	Lys	Asn	Gly	Glu	Trp	Gly	Thr	Val	Cys	Asp
			340					345					350		
Asp	Lys	Trp	Asp	Leu	Val	Ser	Ala	Ser	Val	Val	Cys	Arg	Glu	Leu	Gly
		355					360					365			

- 24 -

Phe Gly Ser Ala Lys Glu Ala Val Thr Gly Ser Arg Leu Gly Gln Gly  
 370 375 380  
 Ile Gly Pro Ile His Leu Asn Glu Ile Gln Cys Thr Gly Asn Glu Lys  
 385 390 395 400  
 Ser Ile Ile Asp Cys Lys Phe Asn Ala Glu Ser Gln Gly Cys Asn His  
 405 410 415  
 Glu Glu Asp Ala Gly Val Arg Cys Asn Thr Pro Ala Met Gly Leu Gln  
 420 425 430  
 Lys Lys Leu Arg Leu Asn Gly Gly Arg Asn Pro Tyr Glu Gly Arg Val  
 435 440 445  
 Glu Val Leu Val Glu Arg Asn Gly Ser Leu Val Trp Gly Met Val Cys  
 450 455 460  
 Gly Gln Asn Trp Gly Ile Val Glu Ala Met Val Val Cys Arg Gln Leu  
 465 470 475 480  
 Gly Leu Gly Phe Ala Ser Asn Ala Phe Gln Glu Thr Trp Tyr Trp His  
 485 490 495  
 Gly Asp Val Asn Ser Asn Lys Val Val Met Ser Gly Val Lys Cys Ser  
 500 505 510  
 Gly Thr Glu Leu Ser Leu Ala His Cys Arg His Asp Gly Glu Asp Val  
 515 520 525  
 Ala Cys Pro Gln Gly Gly Val Gln Tyr Gly Ala Gly Val Ala Cys Ser  
 530 535 540  
 Glu Thr Ala Pro Asp Leu Val Leu Asn Ala Glu Met Val Gln Gln Thr  
 545 550 555 560  
 Thr Tyr Leu Glu Asp Arg Pro Met Phe Met Leu Gln Cys Ala Met Glu  
 565 570 575  
 Glu Asn Cys Leu Ser Ala Ser Ala Ala Gln Thr Asp Pro Thr Thr Gly  
 580 585 590  
 Tyr Arg Arg Leu Leu Arg Phe Ser Ser Gln Ile His Asn Asn Gly Gln  
 595 600 605  
 Ser Asp Phe Arg Pro Lys Asn Gly Arg His Ala Trp Ile Trp His Asp  
 610 615 620  
 Cys His Arg His Tyr His Ser Met Glu Val Phe Thr His Tyr Asp Leu  
 625 630 635 640  
 Leu Asn Leu Asn Gly Thr Lys Val Ala Glu Gly His Lys Ala Ser Phe  
 645 650 655  
 Cys Leu Glu Asp Thr Glu Cys Glu Gly Asp Ile Gln Lys Asn Tyr Glu  
 660 665 670  
 Cys Ala Asn Phe Gly Asp Gln Gly Ile Thr Met Gly Cys Trp Asp Met  
 675 680 685

- 25 -

Tyr Arg His Asp Ile Asp Cys Gln Trp Val Asp Ile Thr Asp Val Pro  
690 695 700

Pro Gly Asp Tyr Leu Phe Gln Val Val Ile Asn Pro Asn Phe Glu Val  
705 710 715 720

Ala Glu Ser Asp Tyr Ser Asn Asn Ile Met Lys Cys Arg Ser Arg Tyr  
725 730 735

Asp Gly His Arg Ile Trp Met Tyr Asn Cys His Ile Gly Gly Ser Phe  
740 745 750

Ser Glu Glu Thr Glu Lys Lys Phe Glu His Phe Ser Gly Leu Leu Asn  
755 760 765

Asn Gln Leu Ser Pro Gln  
770

<210> 17

<211> 754

<212> PRT

<213> Mus musculus

<400> 17

Met Arg Ala Val Ser Val Trp Tyr Cys Cys Pro Trp Gly Leu Leu Leu  
1 5 10 15

Leu His Cys Leu Cys Ser Phe Ser Val Gly Ser Pro Ser Pro Ser Ile  
20 25 30

Ser Pro Glu Lys Lys Val Gly Ser Gln Gly Leu Arg Phe Arg Leu Ala  
35 40 45

Gly Phe Pro Arg Lys Pro Tyr Glu Gly Arg Val Glu Ile Gln Arg Ala  
50 55 60

Gly Glu Trp Gly Thr Ile Cys Asp Asp Asp Phe Thr Leu Gln Ala Ala  
65 70 75 80

His Val Leu Cys Arg Glu Leu Gly Phe Thr Glu Ala Thr Gly Trp Thr  
85 90 95

His Ser Ala Lys Tyr Gly Pro Gly Thr Gly Arg Ile Trp Leu Asp Asn  
100 105 110

Leu Ser Cys Arg Gly Thr Glu Gly Ser Val Thr Glu Cys Ala Ser Arg  
115 120 125

Gly Trp Gly Asn Ser Asp Cys Thr His Asp Glu Asp Ala Gly Val Ile  
130 135 140

Cys Lys Asp Gln Arg Leu Pro Gly Phe Ser Asp Ser Asn Val Ile Glu  
145 150 155 160

Val Glu His Gln Leu Gln Val Glu Glu Val Arg Leu Arg Pro Ala Val  
165 170 175

Glu Trp Gly Arg Arg Pro Leu Pro Val Thr Glu Gly Leu Val Glu Val  
180 185 190

- 26 -

Arg Leu Pro Glu Gly Trp Ser Gln Val Cys Asp Lys Gly Trp Ser Ala  
 195 200 205  
 His Asn Ser His Val Val Cys Gly Met Leu Gly Phe Pro Gly Glu Lys  
 210 215 220  
 Arg Val Asn Met Ala Phe Tyr Arg Met Leu Ala Gln Lys Lys Gln His  
 225 230 235 240  
 Ser Phe Gly Leu His Ser Val Ala Cys Val Gly Thr Glu Ala His Leu  
 245 250 255  
 Ser Leu Cys Ser Leu Glu Phe Tyr Arg Ala Asn Asp Thr Thr Arg Cys  
 260 265 270  
 Ser Gly Gly Asn Pro Ala Val Val Ser Cys Val Leu Gly Pro Leu Tyr  
 275 280 285  
 Ala Thr Phe Thr Gly Gln Lys Lys Gln Gln His Ser Lys Pro Gln Gly  
 290 295 300  
 Glu Ala Arg Val Arg Leu Lys Gly Gly Ala His Gln Gly Glu Gly Arg  
 305 310 315 320  
 Val Glu Val Leu Lys Ala Gly Thr Trp Gly Thr Val Cys Asp Arg Lys  
 325 330 335  
 Trp Asp Leu Gln Ala Ala Ser Val Val Cys Pro Glu Leu Gly Phe Gly  
 340 345 350  
 Thr Ala Arg Glu Ala Leu Ser Gly Ala Arg Met Gly Gln Gly Met Gly  
 355 360 365  
 Ala Ile His Leu Ser Glu Val Arg Cys Ser Gly Gln Glu Pro Ser Leu  
 370 375 380  
 Trp Arg Cys Pro Ser Lys Asn Ile Thr Ala Glu Asp Cys Ser His Ser  
 385 390 395 400  
 Gln Asp Ala Gly Val Arg Cys Asn Leu Pro Tyr Thr Gly Val Glu Thr  
 405 410 415  
 Lys Ile Arg Leu Ser Gly Gly Arg Ser Arg Tyr Glu Gly Arg Val Glu  
 420 425 430  
 Val Gln Ile Gly Ile Pro Gly His Leu Arg Trp Gly Leu Ile Cys Gly  
 435 440 445  
 Asp Asp Trp Gly Thr Leu Glu Ala Met Val Ala Cys Arg Gln Leu Gly  
 450 455 460  
 Leu Gly Tyr Ala Asn His Gly Leu Gln Glu Thr Trp Tyr Trp Asp Ser  
 465 470 475 480  
 Gly Asn Val Thr Glu Val Val Met Ser Gly Val Arg Cys Thr Gly Ser  
 485 490 495  
 Glu Leu Ser Leu Asn Gln Cys Ala His Ser Ser His Ile Thr Cys  
 500 505 510

- 27 -

Lys Lys Thr Gly Thr Arg Phe Thr Ala Gly Val Ile Cys Ser Glu Thr  
 515 520 525  
 Ala Ser Asp Leu Leu Leu His Ser Ala Leu Val Gln Glu Thr Ala Tyr  
 530 535 540  
 Ile Glu Asp Arg Pro Leu His Met Leu Tyr Cys Ala Ala Glu Glu Asn  
 545 550 555 560  
 Cys Leu Ala Ser Ser Ala Arg Ser Ala Asn Trp Pro Tyr Gly His Arg  
 565 570 575  
 Arg Leu Leu Arg Phe Ser Ser Gln Ile His Asn Leu Gly Arg Ala Asp  
 580 585 590  
 Phe Arg Pro Lys Ala Gly Arg His Ser Trp Val Trp His Glu Cys His  
 595 600 605  
 Gly His Tyr His Ser Met Asp Ile Phe Thr His Tyr Asp Ile Leu Thr  
 610 615 620  
 Pro Asn Gly Thr Lys Val Ala Glu Gly His Lys Ala Ser Phe Cys Leu  
 625 630 635 640  
 Glu Asp Thr Glu Cys Gln Glu Asp Val Ser Lys Arg Tyr Glu Cys Ala  
 645 650 655  
 Asn Phe Gly Glu Gln Gly Ile Thr Val Gly Cys Trp Asp Leu Tyr Arg  
 660 665 670  
 His Asp Ile Asp Cys Gln Trp Ile Asp Ile Thr Asp Val Lys Pro Gly  
 675 680 685  
 Asn Tyr Ile Leu Gln Val Val Ile Asn Pro Asn Phe Glu Val Ala Glu  
 690 695 700  
 Ser Asp Phe Thr Asn Asn Ala Met Lys Cys Asn Cys Lys Tyr Asp Gly  
 705 710 715 720  
 His Arg Ile Trp Val His Asn Cys His Ile Gly Asp Ala Phe Ser Glu  
 725 730 735  
 Glu Ala Asn Arg Arg Phe Glu Arg Tyr Pro Gly Gln Thr Ser Asn Gln  
 740 745 750  
 Ile Val

&lt;210&gt; 18

&lt;211&gt; 11

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

 <223> Description of Artificial Sequence: Copper-binding talon  
 consensus sequence

- 28 -

&lt;400&gt; 18

Trp Glu Trp His Ser Cys His Gln His Tyr His  
 1 5 10

&lt;210&gt; 19

&lt;211&gt; 451

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 19

Met Glu Gln Trp Asp His Phe His Asn Gln Gln Glu Asp Thr Asp Ser  
 1 5 10 15

Cys Ser Glu Ser Val Lys Phe Asp Ala Arg Ser Met Thr Ala Leu Leu  
 20 25 30

Pro Pro Asn Pro Lys Asn Ser Pro Ser Leu Gln Glu Lys Leu Lys Ser  
 35 40 45

Phe Lys Ala Ala Leu Ile Ala Leu Tyr Leu Leu Val Phe Ala Val Leu  
 50 55 60

Ile Pro Leu Ile Gly Ile Val Ala Ala Gln Leu Leu Lys Trp Glu Thr  
 65 70 75 80

Lys Asn Cys Ser Val Ser Ser Thr Asn Ala Asn Asp Ile Thr Gln Ser  
 85 90 95

Leu Thr Gly Lys Gly Asn Asp Ser Glu Glu Glu Met Arg Phe Gln Glu  
 100 105 110

Val Phe Met Glu His Met Ser Asn Met Glu Lys Arg Ile Gln His Ile  
 115 120 125

Leu Asp Met Glu Ala Asn Leu Met Asp Thr Glu His Phe Gln Asn Phe  
 130 135 140

Ser Met Thr Thr Asp Gln Arg Phe Asn Asp Ile Leu Leu Gln Leu Ser  
 145 150 155 160

Thr Leu Phe Ser Ser Val Gln Gly His Gly Asn Ala Ile Asp Glu Ile  
 165 170 175

Ser Lys Ser Leu Ile Ser Leu Asn Thr Thr Leu Leu Asp Leu Gln Leu  
 180 185 190

Asn Ile Glu Asn Leu Asn Gly Lys Ile Gln Glu Asn Thr Phe Lys Gln  
 195 200 205

Gln Glu Glu Ile Ser Lys Leu Glu Glu Arg Val Tyr Asn Val Ser Ala  
 210 215 220

Glu Ile Met Ala Met Lys Glu Glu Gln Val His Leu Glu Gln Glu Ile  
 225 230 235 240

Lys Gly Glu Val Lys Val Leu Asn Asn Ile Thr Asn Asp Leu Arg Leu  
 245 250 255

- 29 -

Lys Asp Trp Glu His Ser Gln Thr Leu Arg Asn Ile Thr Leu Ile Gln  
260 265 270

Gly Pro Pro Gly Pro Pro Gly Glu Lys Gly Asp Arg Gly Pro Thr Gly  
275 280 285

Glu Ser Gly Pro Arg Gly Phe Pro Gly Pro Ile Gly Pro Pro Gly Leu  
290 295 300

Lys Gly Asp Arg Gly Ala Ile Gly Phe Pro Gly Ser Arg Gly Leu Pro  
305 310 315 320

Gly Tyr Ala Gly Arg Pro Gly Asn Ser Gly Pro Lys Gly Gln Lys Gly  
325 330 335

Glu Lys Gly Ser Gly Asn Thr Leu Thr Pro Phe Thr Lys Val Arg Leu  
340 345 350

Val Gly Gly Ser Gly Pro His Glu Gly Arg Val Glu Ile Leu His Ser  
355 360 365

Gly Gln Trp Gly Thr Ile Cys Asp Asp Arg Trp Glu Val Arg Val Gly  
370 375 380

Gln Val Val Cys Arg Ser Leu Gly Tyr Pro Gly Val Gln Ala Val His  
385 390 395 400

Lys Ala Ala His Phe Gly Gln Gly Thr Gly Pro Ile Trp Leu Asn Glu  
405 410 415

Val Phe Cys Phe Gly Arg Glu Ser Ser Ile Glu Glu Cys Lys Ile Arg  
420 425 430

Gln Trp Gly Thr Arg Ala Cys Ser His Ser Glu Asp Ala Gly Val Thr  
435 440 445

Cys Thr Leu  
450

<210> 20  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 20  
gcttaccaag aaacccatgt cagc

24

<210> 21  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

- 30 -

<400> 21  
ggcagtttagt caggtgctgc

20

<210> 22  
<211> 981  
<212> DNA  
<213> Mus musculus

<220>  
<221> CDS  
<222> (107)..(748)

<400> 22  
gaattcggca cgagggccgg cccccccgcg ccaccccagc ctcaaactgc agtccggcgc 60  
cgcggggcag gacaagggga aggaataaac acgtttggtg agagcc atg gca ctc 115  
Met Ala Leu  
1  
aag gtc cta cct cta cac agg acg gtg ctc ttc gct gcc att ctc ttc 163  
Lys Val Leu Pro Leu His Arg Thr Val Leu Phe Ala Ala Ile Leu Phe  
5 10 15  
cta ctc cac ctg gca tgt aaa gtg agt tgc gaa acc gga gat tgc agg 211  
Leu Leu His Leu Ala Cys Lys Val Ser Cys Glu Thr Gly Asp Cys Arg  
20 25 30 35  
cag cag gaa ttc aag gat cga tct gga aac tgt gtc ctc tgc aaa cag 259  
Gln Gln Glu Phe Lys Asp Arg Ser Gly Asn Cys Val Leu Cys Lys Gln  
40 45 50  
tgc gga cct ggc atg gag ttg tcc aag gaa tgt ggc ttc ggc tat ggg 307  
Cys Gly Pro Gly Met Glu Leu Ser Lys Glu Cys Gly Phe Gly Tyr Gly  
55 60 65  
gag gat gca cag tgt gtg ccc tgc agg ccg cac cgg ttc aag gaa gac 355  
Glu Asp Ala Gln Cys Val Pro Cys Arg Pro His Arg Phe Lys Glu Asp  
70 75 80  
tgg ggt ttc cag aag tgt aag cca tgt gcg gac tgt gcg ctg gtg aac 403  
Trp Gly Phe Gln Lys Cys Lys Pro Cys Ala Asp Cys Ala Leu Val Asn  
85 90 95  
cgc ttt cag agg gcc aac tgc tca cac acc agt gat gct gtc tgc ggg 451  
Arg Phe Gln Arg Ala Asn Cys Ser His Thr Ser Asp Ala Val Cys Gly  
100 105 110 115  
gac tgc ctg cca gga ttt tac cgg aag acc aaa ctg gtt ggt ttt caa 499  
Asp Cys Leu Pro Gly Phe Tyr Arg Lys Thr Lys Leu Val Gly Phe Gln  
120 125 130  
gac atg gag tgt gtg ccc tgc gga gac cca cct cct ccc tac gaa cca 547  
Asp Met Glu Cys Val Pro Cys Gly Asp Pro Pro Pro Pro Tyr Glu Pro  
135 140 145  
cac tgt acc agc aag gtg aac ctt gtg aag atc tcc tcc acc gtc tcc 595  
His Cys Thr Ser Lys Val Asn Leu Val Lys Ile Ser Ser Thr Val Ser  
150 155 160

- 31 -

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agc cct cgg gac acg gcg ctg gct gcc gtc atc tgc agt gct ctg gcc 643
Ser Pro Arg Asp Thr Ala Leu Ala Ala Val Ile Cys Ser Ala Leu Ala
165 170 175

acg gtg ctg ctc gcc ctg ctc atc ctg tgt gtc atc tac tgc aag agg 691
Thr Val Leu Leu Ala Leu Leu Ile Leu Cys Val Ile Tyr Cys Lys Arg
180 185 190 195

cag ttc atg gag aag aaa ccc agc tgt aag ctc cca tcc ctc tgt ctc 739
Gln Phe Met Glu Lys Lys Pro Ser Cys Lys Leu Pro Ser Leu Cys Leu
200 205 210

act gtg aag tgagcttggt agcattgtca cccaagagtt ctcaagacac 788
Thr Val Lys

ctggctgaga cctaagacct ttagagcacc aacagctact tagaatacaa gatgcaggaa 848

aacgagcctc ttcaggaatc tcagggcctc ctagggatgc tggcaaggct gtgatgtctc 908

aaggctacca ggaaaaaata aaagttgtct ataccctaaa aaaaaaaaaa aaaaaaaaaa 968

aacatgcggc cgc 981

<210> 23
<211> 214
<212> PRT
<213> Mus musculus

<400> 23
Met Ala Leu Lys Val Leu Pro Leu His Arg Thr Val Leu Phe Ala Ala
1 5 10 15

Ile Leu Phe Leu Leu His Leu Ala Cys Lys Val Ser Cys Glu Thr Gly
20 25 30

Asp Cys Arg Gln Gln Glu Phe Lys Asp Arg Ser Gly Asn Cys Val Leu
35 40 45

Cys Lys Gln Cys Gly Pro Gly Met Glu Leu Ser Lys Glu Cys Gly Phe
50 55 60

Gly Tyr Gly Glu Asp Ala Gln Cys Val Pro Cys Arg Pro His Arg Phe
65 70 75 80

Lys Glu Asp Trp Gly Phe Gln Lys Cys Lys Pro Cys Ala Asp Cys Ala
85 90 95

Leu Val Asn Arg Phe Gln Arg Ala Asn Cys Ser His Thr Ser Asp Ala
100 105 110

Val Cys Gly Asp Cys Leu Pro Gly Phe Tyr Arg Lys Thr Lys Leu Val
115 120 125

Gly Phe Gln Asp Met Glu Cys Val Pro Cys Gly Asp Pro Pro Pro Pro
130 135 140

Tyr Glu Pro His Cys Thr Ser Lys Val Asn Leu Val Lys Ile Ser Ser
145 150 155 160

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- 33 -

tac gaa cca cac tgt acc agc aag gtg aac ctt gtg aag atc tcc tcc	480
Tyr Glu Pro His Cys Thr Ser Lys Val Asn Leu Val Lys Ile Ser Ser	
145 150 155 160	

acc gtc tcc agc cct cgg gac acg gcg ctg gct gcc gtc atc tgc agt	528
Thr Val Ser Ser Pro Arg Asp Thr Ala Leu Ala Ala Val Ile Cys Ser	
165 170 175	

gct ctg gcc acg gtg ctg ctc gcc ctg ctc atc ctg tgt gtc atc tac	576
Ala Leu Ala Thr Val Leu Leu Ala Leu Leu Ile Leu Cys Val Ile Tyr	
180 185 190	

tgc aag agg cag ttc atg gag aag aaa ccc agc tgt aag ctc cca tcc	624
Cys Lys Arg Gln Phe Met Glu Lys Lys Pro Ser Cys Lys Leu Pro Ser	
195 200 205	

ctc tgt ctc act gtg aag	642
Leu Cys Leu Thr Val Lys	
210	

&lt;210&gt; 25

&lt;211&gt; 555

&lt;212&gt; DNA

&lt;213&gt; Mus musculus

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(555)

&lt;400&gt; 25

gaa acc gga gat tgc agg cag cag gaa ttc aag gat cga tct gga aac	48
Glu Thr Gly Asp Cys Arg Gln Gln Glu Phe Lys Asp Arg Ser Gly Asn	
1 5 10 15	

tgt gtc ctc tgc aaa cag tgc gga cct ggc atg gag ttg tcc aag gaa	96
Cys Val Leu Cys Lys Gln Cys Gly Pro Gly Met Glu Leu Ser Lys Glu	
20 25 30	

tgt ggc ttc ggc tat ggg gag gat gca cag tgt gtg ccc tgc agg ccg	144
Cys Gly Phe Gly Tyr Gly Glu Asp Ala Gln Cys Val Pro Cys Arg Pro	
35 40 45	

cac cgg ttc aag gaa gac tgg ggt ttc cag aag tgt aag cca tgt gcg	192
His Arg Phe Lys Glu Asp Trp Gly Phe Gln Lys Cys Lys Pro Cys Ala	
50 55 60	

gac tgt gcg ctg gtg aac cgc ttt cag agg gcc aac tgc tca cac acc	240
Asp Cys Ala Leu Val Asn Arg Phe Gln Arg Ala Asn Cys Ser His Thr	
65 70 75 80	

agt gat gct gtc tgc ggg gac tgc ctg cca gga ttt tac cgg aag acc	288
Ser Asp Ala Val Cys Gly Asp Cys Leu Pro Gly Phe Tyr Arg Lys Thr	
85 90 95	

aaa ctg gtt ggt ttt caa gac atg gag tgt gtg ccc tgc gga gac cca	336
Lys Leu Val Gly Phe Gln Asp Met Glu Cys Val Pro Cys Gly Asp Pro	
100 105 110	

- 34 -

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cct cct ccc tac gaa cca cac tgt acc agc aag gtg aac ctt gtg aag 384
Pro Pro Pro Tyr Glu Pro His Cys Thr Ser Lys Val Asn Leu Val Lys
      115                      120                      125

atc tcc tcc acc gtc tcc agc cct cgg gac acg gcg ctg gct gcc gtc 432
Ile Ser Ser Thr Val Ser Ser Pro Arg Asp Thr Ala Leu Ala Ala Val
      130                      135                      140

atc tgc agt gct ctg gcc acg gtg ctg ctc gcc ctg ctc atc ctg tgt 480
Ile Cys Ser Ala Leu Ala Thr Val Leu Leu Ala Leu Leu Ile Leu Cys
145                      150                      155                      160

gtc atc tac tgc aag agg cag ttc atg gag aag aaa ccc agc tgt aag 528
Val Ile Tyr Cys Lys Arg Gln Phe Met Glu Lys Lys Pro Ser Cys Lys
      165                      170                      175

ctc cca tcc ctc tgt ctc act gtg aag 555
Leu Pro Ser Leu Cys Leu Thr Val Lys
      180                      185

<210> 26
<211> 655
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (110)..(559)

<400> 26
gaattcggca cgagggcggtt tggcgcgga gtcgtaccaa gctgcggaaa gcgtgagtct 60

ggagcacagc actggcgagt agcaggaata aacacgtttg gtgagagcc atg gca ctc 118
                                     Met Ala Leu
                                     1

aag gtc cta cct cta cac agg acg gtg ctc ttc gct gcc att ctc ttc 166
Lys Val Leu Pro Leu His Arg Thr Val Leu Phe Ala Ala Ile Leu Phe
      5                      10                      15

cta ctc cac ctg gca tgt aaa gtg agt tgc gaa acc gga gat tgc agg 214
Leu Leu His Leu Ala Cys Lys Val Ser Cys Glu Thr Gly Asp Cys Arg
      20                      25                      30                      35

cag cag gaa ttc aag gat cga tct gga aac tgt gtc ctc tgc aaa cag 262
Gln Gln Glu Phe Lys Asp Arg Ser Gly Asn Cys Val Leu Cys Lys Gln
      40                      45                      50

tgc gga cct ggc atg gag ttg tcc aag gaa tgt ggc ttc ggc tat ggg 310
Cys Gly Pro Gly Met Glu Leu Ser Lys Glu Cys Gly Phe Gly Tyr Gly
      55                      60                      65

gag gat gca cag tgt gtg ccc tgc agg ccg cac cgg ttc aag gaa gac 358
Glu Asp Ala Gln Cys Val Pro Cys Arg Pro His Arg Phe Lys Glu Asp
      70                      75                      80

tgg ggt ttc cag aag tgt aag cca tgt gcg gac tgt gcg ctg gtg aac 406
Trp Gly Phe Gln Lys Cys Lys Pro Cys Ala Asp Cys Ala Leu Val Asn
      85                      90                      95

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- 36 -

<210> 28  
 <211> 450  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (1)..(450)

<400> 28  
 atg gca ctc aag gtc cta cct cta cac agg acg gtg ctc ttc gct gcc 48  
 Met Ala Leu Lys Val Leu Pro Leu His Arg Thr Val Leu Phe Ala Ala  
 1 5 10 15  
 att ctc ttc cta ctc cac ctg gca tgt aaa gtg agt tgc gaa acc gga 96  
 Ile Leu Phe Leu Leu His Leu Ala Cys Lys Val Ser Cys Glu Thr Gly  
 20 25 30  
 gat tgc agg cag cag gaa ttc aag gat cga tct gga aac tgt gtc ctc 144  
 Asp Cys Arg Gln Gln Glu Phe Lys Asp Arg Ser Gly Asn Cys Val Leu  
 35 40 45  
 tgc aaa cag tgc gga cct ggc atg gag ttg tcc aag gaa tgt ggc ttc 192  
 Cys Lys Gln Cys Gly Pro Gly Met Glu Leu Ser Lys Glu Cys Gly Phe  
 50 55 60  
 ggc tat ggg gag gat gca cag tgt gtg ccc tgc agg ccg cac cgg ttc 240  
 Gly Tyr Gly Glu Asp Ala Gln Cys Val Pro Cys Arg Pro His Arg Phe  
 65 70 75 80  
 aag gaa gac tgg ggt ttc cag aag tgt aag cca tgt gcg gac tgt gcg 288  
 Lys Glu Asp Trp Gly Phe Gln Lys Cys Lys Pro Cys Ala Asp Cys Ala  
 85 90 95  
 ctg gtg aac cgc ttt cag agg gcc aac tgc tca cac acc agt gat gct 336  
 Leu Val Asn Arg Phe Gln Arg Ala Asn Cys Ser His Thr Ser Asp Ala  
 100 105 110  
 gtc tgc ggg gac tgc ctg cca gga ttt tac cgg aag acc aaa ctg gtt 384  
 Val Cys Gly Asp Cys Leu Pro Gly Phe Tyr Arg Lys Thr Lys Leu Val  
 115 120 125  
 ggt ttt caa gac atg gag tgt gtg ccc tgc gga gac cca cct cct ccc 432  
 Gly Phe Gln Asp Met Glu Cys Val Pro Cys Gly Asp Pro Pro Pro Pro  
 130 135 140  
 tac gaa cca cac tgt gag 450  
 Tyr Glu Pro His Cys Glu  
 145 150

<210> 29  
 <211> 363  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (1)..(363)



- 38 -

Gln Asp Ser Gly Tyr Lys Leu Gly Val Asp Cys Val Pro Cys Pro Pro  
 115 120 125  
 Gly His Phe Ser Pro Gly Asn Asn Gln Ala Cys Lys Pro Trp Thr Asn  
 130 135 140  
 Cys Thr Leu Ser Gly Lys Gln Thr Arg His Pro Ala Ser Asp Ser Leu  
 145 150 155 160  
 Asp Ala Val Cys Glu Asp Arg Ser Leu Leu Ala Thr Leu Leu Trp Glu  
 165 170 175  
 Thr Gln Arg Pro Thr Phe Arg Pro Thr Thr Val Gln Ser Thr Thr Val  
 180 185 190  
 Trp Pro Arg Thr Ser Glu Leu Pro Ser Pro Pro Thr Leu Val Thr Pro  
 195 200 205  
 Glu Gly Pro Ala Phe Ala Val Leu Leu Gly Leu Gly Leu Gly Leu Leu  
 210 215 220  
 Ala Pro Leu Thr Val Leu Leu Ala Leu Tyr Leu Leu Arg Lys Ala Trp  
 225 230 235 240  
 Arg Leu Pro Asn Thr Pro Lys Pro Cys Trp Gly Asn Ser Phe Arg Thr  
 245 250 255  
 Pro Ile Gln Glu Glu His Thr Asp Ala His Phe Thr Leu Ala Lys Ile  
 260 265 270

<210> 31  
 <211> 1344  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (273)..(1022)

<400> 31  
 gaattcggaa cgaggggaac ctaattctcc tgaggctgag ggaggggtgga ggggtctcaag 60  
 gcaacgctgg cccacgacg gaggccagg agcactaaca gtacccttag cttgctttcc 120  
 tcttccctcc tttttatatt caagttcctt tttatttctc cttgcgtaac aaccttcttc 180  
 ccttctgcac cactgcccgt acccttacct gccccgccac ctcttgcta cccactctt 240  
 gaaaccacag ctgttggcag ggtccccagc tc atg cca gcc tca tct cct ttc 293  
 Met Pro Ala Ser Ser Pro Phe  
 1 5  
 ttg cta gcc ccc aaa ggg cct cca ggc aac atg ggg ggc cca gtc aga 341  
 Leu Leu Ala Pro Lys Gly Pro Pro Gly Asn Met Gly Gly Pro Val Arg  
 10 15 20



- 40 -

ggggtgggtac atactggaga cagccaagag ctgagtatat aaaggagagg gaatgtgcag 1122  
 gaacagaggc atcttcctgg gtttggctcc ccgttcctca cttttccctt ttcattccca 1182  
 ccccttagac tttgatttta cggatatctt gcttctgttc cccatggagc tccgaattct 1242  
 tgcgtgtgtg tagatgaggg gcgggggacg ggcgccaggc attgttcaga cctggtcggg 1302  
 gccactgga agcatccaga acagcaccac catctagcgg cc 1344

<210> 32  
 <211> 250  
 <212> PRT  
 <213> Homo sapiens

<400> 32  
 Met Pro Ala Ser Ser Pro Phe Leu Leu Ala Pro Lys Gly Pro Pro Gly  
 1 5 10 15  
 Asn Met Gly Gly Pro Val Arg Glu Pro Ala Leu Ser Val Ala Leu Trp  
 20 25 30  
 Leu Ser Trp Gly Ala Ala Leu Gly Ala Val Ala Cys Ala Met Ala Leu  
 35 40 45  
 Leu Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg Glu Val Ser Arg  
 50 55 60  
 Leu Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly Glu Gly Tyr Pro Trp  
 65 70 75 80  
 Gln Ser Leu Pro Glu Gln Ser Ser Asp Ala Leu Glu Ala Trp Glu Asn  
 85 90 95  
 Gly Glu Arg Ser Arg Lys Arg Arg Ala Val Leu Thr Gln Lys Gln Lys  
 100 105 110  
 Lys Gln His Ser Val Leu His Leu Val Pro Ile Asn Ala Thr Ser Lys  
 115 120 125  
 Asp Asp Ser Asp Val Thr Glu Val Met Trp Gln Pro Ala Leu Arg Arg  
 130 135 140  
 Gly Arg Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile Gln Asp Ala  
 145 150 155 160  
 Gly Val Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp Val Thr Phe  
 165 170 175  
 Thr Met Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg Gln Glu Thr  
 180 185 190  
 Leu Phe Arg Cys Ile Arg Ser Met Pro Ser His Pro Asp Arg Ala Tyr  
 195 200 205  
 Asn Ser Cys Tyr Ser Ala Gly Val Phe His Leu His Gln Gly Asp Ile  
 210 215 220

- 41 -

Leu Ser Val Ile Ile Pro Arg Ala Arg Ala Lys Leu Asn Leu Ser Pro  
 225 230 235 240

His Gly Thr Phe Leu Gly Phe Val Lys Leu  
 245 250

&lt;210&gt; 33

&lt;211&gt; 754

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(750)

&lt;400&gt; 33

atg cca gcc tca tct cct ttc ttg cta gcc ccc aaa ggg cct cca ggc 48  
 Met Pro Ala Ser Ser Pro Phe Leu Leu Ala Pro Lys Gly Pro Pro Gly  
 1 5 10 15

aac atg ggg ggc cca gtc aga gag ccg gca ctc tca gtt gcc ctc tgg 96  
 Asn Met Gly Gly Pro Val Arg Glu Pro Ala Leu Ser Val Ala Leu Trp  
 20 25 30

ttg agt tgg ggg gca gct ctg ggg gcc gtg gct tgt gcc atg gct ctg 144  
 Leu Ser Trp Gly Ala Ala Leu Gly Ala Val Ala Cys Ala Met Ala Leu  
 35 40 45

ctg acc caa caa aca gag ctg cag agc ctc agg aga gag gtg agc cgg 192  
 Leu Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg Glu Val Ser Arg  
 50 55 60

ctg cag ggg aca gga ggc ccc tcc cag aat ggg gaa ggg tat ccc tgg 240  
 Leu Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly Glu Gly Tyr Pro Trp  
 65 70 75 80

cag agt ctc ccg gag cag agt tcc gat gcc ctg gaa gcc tgg gag aat 288  
 Gln Ser Leu Pro Glu Gln Ser Ser Asp Ala Leu Glu Ala Trp Glu Asn  
 85 90 95

ggg gag aga tcc ccg aaa agg aga gca gtg ctc acc caa aaa cag aag 336  
 Gly Glu Arg Ser Arg Lys Arg Arg Ala Val Leu Thr Gln Lys Gln Lys  
 100 105 110

aag cag cac tot gtc ctg cac ctg gtt ccc att aac gcc acc tcc aag 384  
 Lys Gln His Ser Val Leu His Leu Val Pro Ile Asn Ala Thr Ser Lys  
 115 120 125

gat gac tcc gat gtg aca gag gtg atg tgg caa cca gct ctt agg cgt 432  
 Asp Asp Ser Asp Val Thr Glu Val Met Trp Gln Pro Ala Leu Arg Arg  
 130 135 140

ggg aga ggc cta cag gcc caa gga tat ggt gtc cga atc cag gat gct 480  
 Gly Arg Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile Gln Asp Ala  
 145 150 155 160

gga gtt tat ctg ctg tat agc cag gtc ctg ttt caa gac gtg act ttc 528  
 Gly Val Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp Val Thr Phe  
 165 170 175

- 42 -

acc atg ggt cag gtg gtg tct cga gaa ggc caa gga agg cag gag act 576  
Thr Met Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg Gln Glu Thr  
180 185 190

cta ttc cga tgt ata aga agt atg ccc tcc cac ccg gac cgg gcc tac 624  
Leu Phe Arg Cys Ile Arg Ser Met Pro Ser His Pro Asp Arg Ala Tyr  
195 200 205

aac agc tgc tat agc gca ggt gtc ttc cat tta cac caa ggg gat att 672  
Asn Ser Cys Tyr Ser Ala Gly Val Phe His Leu His Gln Gly Asp Ile  
210 215 220

ctg agt gtc ata att ccc cgg gca agg gcg aaa ctt aac ctc tct cca 720  
Leu Ser Val Ile Ile Pro Arg Ala Arg Ala Lys Leu Asn Leu Ser Pro  
225 230 235 240

cat gga acc ttc ctg ggg ttt gtg aaa ctg tgat 754  
His Gly Thr Phe Leu Gly Phe Val Lys Leu  
245 250

<210> 34  
<211> 17  
<212> PRT  
<213> Homo sapiens

<400> 34  
Val Arg Ile Gln Asp Ala Gly Val Tyr Leu Leu Tyr Ser Gln Val Leu  
1 5 10 15

Phe

<210> 35  
<211> 49  
<212> PRT  
<213> Homo sapiens

<400> 35  
Met Pro Ala Ser Ser Pro Phe Leu Leu Ala Pro Lys Gly Pro Pro Gly  
1 5 10 15

Asn Met Gly Gly Pro Val Arg Glu Pro Ala Leu Ser Val Ala Leu Trp  
20 25 30

Leu Ser Trp Gly Ala Ala Leu Gly Ala Val Ala Cys Ala Met Ala Leu  
35 40 45

Leu

<210> 36  
<211> 603  
<212> DNA  
<213> Homo sapiens

<222> (1) .. (603)

<400> 36

acc caa caa aca gag ctg cag agc ctc agg aga gag gtg agc cgg ctg 48  
Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg Glu Val Ser Arg Leu  
1 5 10 15

cag ggg aca gga ggc ccc tcc cag aat ggg gaa ggg tat ccc tgg cag 96  
Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly Glu Gly Tyr Pro Trp Gln  
20 25 30

agt ctc ccg gag cag agt tcc gat gcc ctg gaa gcc tgg gag aat ggg    144  
Ser Leu Pro Glu Gln Ser Ser Asp Ala Leu Glu Ala Trp Glu Asn Gly

35                      40                      45

gag aga tcc cgg aaa agg aga gca gtg ctc acc caa aaa cag aag aag 192  
Glu Arg Ser Arg Lys Arg Arg Ala Val Leu Thr Gln Lys Gln Lys Lys  
50 55 60

cag cac tct gtc ctg cac ctg gtt ccc att aac gcc acc tcc aag gat 240  
Gln His Ser Val Leu His Leu Val Pro Ile Asn Ala Thr Ser Lys Asp  
65 70 75 80

gac tcc gat gtg aca gag gtg atg tgg caa cca gct ctt agg cgt ggg 288  
Asp Ser Asp Val Thr Glu Val Met Trp Gln Pro Ala Leu Arg Arg Gly  
85 90 95

```

aga ggc cta cag gcc caa gga tat ggt gtc cga atc cag gat gct gga    336
Arg Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile Gln Asp Ala Gly
      100                      105                      110

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ggt tat ctg ctg tat agc cag gtc ctg ttt caa gac gtg act ttc acc 384  
Val Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp Val Thr Phe Thr  
115 120 125

atg	ggt	cag	gtg	gtg	tct	cga	gaa	ggc	caa	gga	agg	cag	gag	act	cta	432
Met	Gly	Gln	Val	Val	Ser	Arg	Glu	Gly	Gln	Gly	Arg	Gln	Glu	Thr	Leu	
	130					135					140					

ttc	cga	tgt	ata	aga	agt	atg	ccc	tcc	cac	ccg	gac	cgg	gcc	tac	aac	480
Phe	Arg	Cys	Ile	Arg	Ser	Met	Pro	Ser	His	Pro	Asp	Arg	Ala	Tyr	Asn	
145					150					155					160	

[illegible]

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agt gtc ata att ccc cgg gca agg gcg aaa ctt aac ctc tct cca cat    576
Ser Val Ile Ile Pro Arg Ala Arg Ala Lys Leu Asn Leu Ser Pro His
          180                      185                      190

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gga acc ttc ctg ggg ttt gtg aaa ctg 603  
Gly Thr Phe Leu Gly Phe Val Lys Leu  
195 200

- 44 -

<210> 37  
 <211> 201  
 <212> PRT  
 <213> Homo sapiens

<400> 37  
 Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg Glu Val Ser Arg Leu  
 1 5 10 15  
 Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly Glu Gly Tyr Pro Trp Gln  
 20 25 30  
 Ser Leu Pro Glu Gln Ser Ser Asp Ala Leu Glu Ala Trp Glu Asn Gly  
 35 40 45  
 Glu Arg Ser Arg Lys Arg Arg Ala Val Leu Thr Gln Lys Gln Lys Lys  
 50 55 60  
 Gln His Ser Val Leu His Leu Val Pro Ile Asn Ala Thr Ser Lys Asp  
 65 70 75 80  
 Asp Ser Asp Val Thr Glu Val Met Trp Gln Pro Ala Leu Arg Arg Gly  
 85 90 95  
 Arg Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile Gln Asp Ala Gly  
 100 105 110  
 Val Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp Val Thr Phe Thr  
 115 120 125  
 Met Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg Gln Glu Thr Leu  
 130 135 140  
 Phe Arg Cys Ile Arg Ser Met Pro Ser His Pro Asp Arg Ala Tyr Asn  
 145 150 155 160  
 Ser Cys Tyr Ser Ala Gly Val Phe His Leu His Gln Gly Asp Ile Leu  
 165 170 175  
 Ser Val Ile Ile Pro Arg Ala Arg Ala Lys Leu Asn Leu Ser Pro His  
 180 185 190  
 Gly Thr Phe Leu Gly Phe Val Lys Leu  
 195 200

<210> 38  
 <211> 699  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(699)

<400> 38  
 atg ggg ggc cca gtc aga gag ccg gca ctc tca gtt gcc ctc tgg ttg 48  
 Met Gly Gly Pro Val Arg Glu Pro Ala Leu Ser Val Ala Leu Trp Leu  
 1 5 10 15

- 45 -

agt tgg ggg gca gct ctg ggg gcc gtg gct tgt gcc atg gct ctg ctg	96
Ser Trp Gly Ala Ala Leu Gly Ala Val Ala Cys Ala Met Ala Leu Leu	
20 25 30	
acc caa caa aca gag ctg cag agc ctc agg aga gag gtg agc cgg ctg	144
Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg Glu Val Ser Arg Leu	
35 40 45	
cag ggg aca gga ggc ccc tcc cag aat ggg gaa ggg tat ccc tgg cag	192
Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly Glu Gly Tyr Pro Trp Gln	
50 55 60	
agt ctc ccg gag cag agt tcc gat gcc ctg gaa gcc tgg gag aat ggg	240
Ser Leu Pro Glu Gln Ser Ser Asp Ala Leu Glu Ala Trp Glu Asn Gly	
65 70 75 80	
gag aga tcc cgg aaa agg aga gca gtg ctc acc caa aaa cag aag aag	288
Glu Arg Ser Arg Lys Arg Arg Ala Val Leu Thr Gln Lys Gln Lys Lys	
85 90 95	
cag cac tct gtc ctg cac ctg gtt ccc att aac gcc acc tcc aag gat	336
Gln His Ser Val Leu His Leu Val Pro Ile Asn Ala Thr Ser Lys Asp	
100 105 110	
gac tcc gat gtg aca gag gtg atg tgg caa cca gct ctt agg cgt ggg	384
Asp Ser Asp Val Thr Glu Val Met Trp Gln Pro Ala Leu Arg Arg Gly	
115 120 125	
aga ggc cta cag gcc caa gga tat ggt gtc cga atc cag gat gct gga	432
Arg Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile Gln Asp Ala Gly	
130 135 140	
gtt tat ctg ctg tat agc cag gtc ctg ttt caa gac gtg act ttc acc	480
Val Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp Val Thr Phe Thr	
145 150 155 160	
atg ggt cag gtg gtg tct cga gaa ggc caa gga agg cag gag act cta	528
Met Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg Gln Glu Thr Leu	
165 170 175	
ttc cga tgt ata aga agt atg ccc tcc cac ccg gac cgg gcc tac aac	576
Phe Arg Cys Ile Arg Ser Met Pro Ser His Pro Asp Arg Ala Tyr Asn	
180 185 190	
agc tgc tat agc gca ggt gtc ttc cat tta cac caa ggg gat att ctg	624
Ser Cys Tyr Ser Ala Gly Val Phe His Leu His Gln Gly Asp Ile Leu	
195 200 205	
agt gtc ata att ccc cgg gca agg gcg aaa ctt aac ctc tct cca cat	672
Ser Val Ile Ile Pro Arg Ala Arg Ala Lys Leu Asn Leu Ser Pro His	
210 215 220	
gga acc ttc ctg ggg ttt gtg aaa ctg	699
Gly Thr Phe Leu Gly Phe Val Lys Leu	
225 230	

- 46 -

<210> 39  
 <211> 233  
 <212> PRT  
 <213> Homo sapiens

<400> 39  
 Met Gly Gly Pro Val Arg Glu Pro Ala Leu Ser Val Ala Leu Trp Leu  
     1                    5                    10                    15  
 Ser Trp Gly Ala Ala Leu Gly Ala Val Ala Cys Ala Met Ala Leu Leu  
                     20                    25                    30  
 Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg Glu Val Ser Arg Leu  
             35                    40                    45  
 Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly Glu Gly Tyr Pro Trp Gln  
     50                    55                    60  
 Ser Leu Pro Glu Gln Ser Ser Asp Ala Leu Glu Ala Trp Glu Asn Gly  
     65                    70                    75                    80  
 Glu Arg Ser Arg Lys Arg Arg Ala Val Leu Thr Gln Lys Gln Lys Lys  
                     85                    90                    95  
 Gln His Ser Val Leu His Leu Val Pro Ile Asn Ala Thr Ser Lys Asp  
             100                    105                    110  
 Asp Ser Asp Val Thr Glu Val Met Trp Gln Pro Ala Leu Arg Arg Gly  
     115                    120                    125  
 Arg Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile Gln Asp Ala Gly  
     130                    135                    140  
 Val Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp Val Thr Phe Thr  
     145                    150                    155                    160  
 Met Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg Gln Glu Thr Leu  
                     165                    170                    175  
 Phe Arg Cys Ile Arg Ser Met Pro Ser His Pro Asp Arg Ala Tyr Asn  
             180                    185                    190  
 Ser Cys Tyr Ser Ala Gly Val Phe His Leu His Gln Gly Asp Ile Leu  
     195                    200                    205  
 Ser Val Ile Ile Pro Arg Ala Arg Ala Lys Leu Asn Leu Ser Pro His  
     210                    215                    220  
 Gly Thr Phe Leu Gly Phe Val Lys Leu  
 225                    230

<210> 40  
 <211> 615  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(615)

- 47 -

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<400> 40
atg gct ctg ctg acc caa caa aca gag ctg cag agc ctc agg aga gag      48
Met Ala Leu Leu Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg Glu
  1              5              10              15

gtg agc cgg ctg cag ggg aca gga ggc ccc tcc cag aat ggg gaa ggg      96
Val Ser Arg Leu Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly Glu Gly
              20              25              30

tat ccc tgg cag agt ctc ccg gag cag agt tcc gat gcc ctg gaa gcc      144
Tyr Pro Trp Gln Ser Leu Pro Glu Gln Ser Ser Asp Ala Leu Glu Ala
              35              40              45

tgg gag aat ggg gag aga tcc cgg aaa agg aga gca gtg ctc acc caa      192
Trp Glu Asn Gly Glu Arg Ser Arg Lys Arg Arg Ala Val Leu Thr Gln
              50              55              60

aaa cag aag aag cag cac tct gtc ctg cac ctg gtt ccc att aac gcc      240
Lys Gln Lys Lys Gln His Ser Val Leu His Leu Val Pro Ile Asn Ala
              65              70              75              80

acc tcc aag gat gac tcc gat gtg aca gag gtg atg tgg caa cca gct      288
Thr Ser Lys Asp Asp Ser Asp Val Thr Glu Val Met Trp Gln Pro Ala
              85              90              95

ctt agg cgt ggg aga ggc cta cag gcc caa gga tat ggt gtc cga atc      336
Leu Arg Arg Gly Arg Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile
              100              105              110

cag gat gct gga gtt tat ctg ctg tat agc cag gtc ctg ttt caa gac      384
Gln Asp Ala Gly Val Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp
              115              120              125

gtg act ttc acc atg ggt cag gtg gtg tct cga gaa ggc caa gga agg      432
Val Thr Phe Thr Met Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg
              130              135              140

cag gag act cta ttc cga tgt ata aga agt atg ccc tcc cac ccg gac      480
Gln Glu Thr Leu Phe Arg Cys Ile Arg Ser Met Pro Ser His Pro Asp
              145              150              155              160

cgg gcc tac aac agc tgc tat agc gca ggt gtc ttc cat tta cac caa      528
Arg Ala Tyr Asn Ser Cys Tyr Ser Ala Gly Val Phe His Leu His Gln
              165              170              175

ggg gat att ctg agt gtc ata att ccc cgg gca agg gcg aaa ctt aac      576
Gly Asp Ile Leu Ser Val Ile Ile Pro Arg Ala Arg Ala Lys Leu Asn
              180              185              190

ctc tct cca cat gga acc ttc ctg ggg ttt gtg aaa ctg      615
Leu Ser Pro His Gly Thr Phe Leu Gly Phe Val Lys Leu
              195              200              205

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&lt;210&gt; 41

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

- 48 -

&lt;400&gt; 41

Met Ala Leu Leu Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg Glu  
 1 5 10 15

Val Ser Arg Leu Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly Glu Gly  
 20 25 30

Tyr Pro Trp Gln Ser Leu Pro Glu Gln Ser Ser Asp Ala Leu Glu Ala  
 35 40 45

Trp Glu Asn Gly Glu Arg Ser Arg Lys Arg Arg Ala Val Leu Thr Gln  
 50 55 60

Lys Gln Lys Lys Gln His Ser Val Leu His Leu Val Pro Ile Asn Ala  
 65 70 75 80

Thr Ser Lys Asp Asp Ser Asp Val Thr Glu Val Met Trp Gln Pro Ala  
 85 90 95

Leu Arg Arg Gly Arg Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile  
 100 105 110

Gln Asp Ala Gly Val Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp  
 115 120 125

Val Thr Phe Thr Met Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg  
 130 135 140

Gln Glu Thr Leu Phe Arg Cys Ile Arg Ser Met Pro Ser His Pro Asp  
 145 150 155 160

Arg Ala Tyr Asn Ser Cys Tyr Ser Ala Gly Val Phe His Leu His Gln  
 165 170 175

Gly Asp Ile Leu Ser Val Ile Ile Pro Arg Ala Arg Ala Lys Leu Asn  
 180 185 190

Leu Ser Pro His Gly Thr Phe Leu Gly Phe Val Lys Leu  
 195 200 205

&lt;210&gt; 42

&lt;211&gt; 17

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Consensus  
 sequence

&lt;220&gt;

<223> Xaas at position 2, 4-6, 12, 13 and 16 may be any  
 amino acid

&lt;220&gt;

<223> Any 2 of the Xaas at positions 4-6 may be absent,  
 intended to equal a range of 1-3;

- 49 -

&lt;220&gt;

<223> Any 1 of the Xaas at positions 12-13 may be absent,  
intended to equal a range of 1-2;

&lt;400&gt; 42

Val Xaa Ile Xaa Xaa Xaa Gly Val Tyr Leu Leu Xaa Xaa Glu Val Xaa  
1 5 10 15

Phe

&lt;210&gt; 43

&lt;211&gt; 233

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 43

Met Ser Thr Glu Ser Met Ile Arg Asp Val Glu Leu Ala Glu Glu Ala  
1 5 10 15

Leu Pro Lys Lys Thr Gly Gly Pro Gln Gly Ser Arg Arg Cys Leu Phe  
20 25 30

Leu Ser Leu Phe Ser Phe Leu Ile Val Ala Gly Ala Thr Thr Leu Phe  
35 40 45

Cys Leu Leu His Phe Gly Val Ile Gly Pro Gln Arg Glu Glu Phe Pro  
50 55 60

Arg Asp Leu Ser Leu Ile Ser Pro Leu Ala Gln Ala Val Arg Ser Ser  
65 70 75 80

Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His Val Val Ala Asn Pro  
85 90 95

Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg Arg Ala Asn Ala Leu  
100 105 110

Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln Leu Val Val Pro Ser  
115 120 125

Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu Phe Lys Gly Gln Gly  
130 135 140

Cys Pro Ser Thr His Val Leu Leu Thr His Thr Ile Ser Arg Ile Ala  
145 150 155 160

Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser Ala Ile Lys Ser Pro  
165 170 175

Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala Lys Pro Trp Tyr Glu  
180 185 190

Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu Lys Gly Asp Arg Leu  
195 200 205

- 50 -

Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp Phe Ala Glu Ser Gly  
 210 215 220

Gln Val Tyr Phe Gly Ile Ile Ala Leu  
 225 230

&lt;210&gt; 44

&lt;211&gt; 249

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 44

Met Ala Ala Arg Arg Ser Gln Arg Arg Arg Gly Arg Arg Gly Glu Pro  
 1 5 10 15

Gly Thr Ala Leu Leu Val Pro Leu Ala Leu Gly Leu Gly Leu Ala Leu  
 20 25 30

Ala Cys Leu Gly Leu Leu Leu Ala Val Val Ser Leu Gly Ser Arg Ala  
 35 40 45

Ser Leu Ser Ala Gln Glu Pro Ala Gln Glu Glu Leu Val Ala Glu Glu  
 50 55 60

Asp Gln Asp Pro Ser Glu Leu Asn Pro Gln Thr Glu Glu Ser Gln Asp  
 65 70 75 80

Pro Ala Pro Phe Leu Asn Arg Leu Val Arg Pro Arg Arg Ser Ala Pro  
 85 90 95

Lys Gly Arg Lys Thr Arg Ala Arg Arg Ala Ile Ala Ala His Tyr Glu  
 100 105 110

Val His Pro Arg Pro Gly Gln Asp Gly Ala Gln Ala Gly Val Asp Gly  
 115 120 125

Thr Val Ser Gly Trp Glu Glu Ala Arg Ile Asn Ser Ser Ser Pro Leu  
 130 135 140

Arg Tyr Asn Arg Gln Ile Gly Glu Phe Ile Val Thr Arg Ala Gly Leu  
 145 150 155 160

Tyr Tyr Leu Tyr Cys Gln Val His Phe Asp Glu Gly Lys Ala Val Tyr  
 165 170 175

Leu Lys Leu Asp Leu Leu Val Asp Gly Val Leu Ala Leu Arg Cys Leu  
 180 185 190

Glu Glu Phe Ser Ala Thr Ala Ala Ser Ser Leu Gly Pro Gln Leu Arg  
 195 200 205

Leu Cys Gln Val Ser Gly Leu Leu Ala Leu Arg Pro Gly Ser Ser Leu  
 210 215 220

Arg Ile Arg Thr Leu Pro Trp Ala His Leu Lys Ala Ala Pro Phe Leu  
 225 230 235 240

Thr Tyr Phe Gly Leu Phe Gln Val His  
 245

- 51 -

<210> 45  
 <211> 1119  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (140)..(871)

<400> 45  
 gtgcacccac gcgtccggca ggatgtttgc agtgtcgcgc ccagggctct gagactgagc 60  
 ctgccatcca ctgcacgcc tttctttcag ggcttttcgg ctgttggtta cactgatgtg 120  
 acccccctcc ctttttgga atg atg ggg atc ttt ttg gtg tat gtt gga ttt 172  
                   Met Met Gly Ile Phe Leu Val Tyr Val Gly Phe  
                   1                  5                  10  
 gtt ttc ttt tcc gtt tta tat gta caa caa ggg ctt tct tct caa gca 220  
 Val Phe Phe Ser Val Leu Tyr Val Gln Gln Gly Leu Ser Ser Gln Ala  
                   15                  20                  25  
 aaa ttt acc gag ttt ccg cgg aac gtg acg gcg acc gag ggg cag aat 268  
 Lys Phe Thr Glu Phe Pro Arg Asn Val Thr Ala Thr Glu Gly Gln Asn  
                   30                  35                  40  
 gtg gag atg tcc tgc gcc ttc cag agc ggc tcc gcc tcg gtg tat ctg 316  
 Val Glu Met Ser Cys Ala Phe Gln Ser Gly Ser Ala Ser Val Tyr Leu  
                   45                  50                  55  
 gag atc caa tgg tgg ttc ctg cgg ggg ccg gag gac ctg gat ccc ggg 364  
 Glu Ile Gln Trp Trp Phe Leu Arg Gly Pro Glu Asp Leu Asp Pro Gly  
                   60                  65                  70                  75  
 gcc gag ggg gcc ggc gcg cag gtg gag ctc ttg ccc gac aga gac ccg 412  
 Ala Glu Gly Ala Gly Ala Gln Val Glu Leu Leu Pro Asp Arg Asp Pro  
                   80                  85                  90  
 gac agc gac ggg acc aag atc agc aca gtg aaa gtc caa ggc aat gac 460  
 Asp Ser Asp Gly Thr Lys Ile Ser Thr Val Lys Val Gln Gly Asn Asp  
                   95                  100                  105  
 atc tcc cac aag ctt cag att tcc aaa gtg agg aaa aag gat gaa ggc 508  
 Ile Ser His Lys Leu Gln Ile Ser Lys Val Arg Lys Lys Asp Glu Gly  
                   110                  115                  120  
 tta tat gag tgc agg gtg act gat gcc aac tac ggg gag ctt cag gaa 556  
 Leu Tyr Glu Cys Arg Val Thr Asp Ala Asn Tyr Gly Glu Leu Gln Glu  
                   125                  130                  135  
 cac aag gcc cag gcc tat ctg aaa gtc aat gcc aac agc cat gcc cgc 604  
 His Lys Ala Gln Ala Tyr Leu Lys Val Asn Ala Asn Ser His Ala Arg  
                   140                  145                  150                  155  
 aga atg cag gcc ttc gaa gcc tcg ccc atg tgg ctg cag gat atg aag 652  
 Arg Met Gln Ala Phe Glu Ala Ser Pro Met Trp Leu Gln Asp Met Lys  
                   160                  165                  170

- 52 -

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ccc cgc aag aac gtc tcc gca gcc atc ccc agc agc atc cat ggc tct 700
Pro Arg Lys Asn Val Ser Ala Ala Ile Pro Ser Ser Ile His Gly Ser
      175                      180                      185

gcc aac caa cga acg cac tcc acc tcc agc cct caa gtg gta gcc aaa 748
Ala Asn Gln Arg Thr His Ser Thr Ser Ser Pro Gln Val Val Ala Lys
      190                      195                      200

atc ccc aaa caa agt cca caa tca ggt atg gaa acc cat ttc gag cct 796
Ile Pro Lys Gln Ser Pro Gln Ser Gly Met Glu Thr His Phe Glu Pro
      205                      210                      215

ttt att tta cca ctc aca aac gct cca cag aaa ggt cag tcg tat aga 844
Phe Ile Leu Pro Leu Thr Asn Ala Pro Gln Lys Gly Gln Ser Tyr Arg
      220                      225                      230                      235

gta gac aga ttt atg aat ggt gat ttt taaaatcgga gacctagttc 891
Val Asp Arg Phe Met Asn Gly Asp Phe
      240

agtgcgaagtg attatgagag gtgagcactg agcctgcacc aattcactca gagctcaaag 951

catgtggggtg caccocgtca gtcccctagt ggtgcttcat ttccagggca tctgagagct 1011

ggactctggt ttttatcctt tctgtattta cacattataa gaacaataaa tcatgtaatg 1071

ttggttacat tacaaaaaaaa aaaaaaaaaa aaaaaaaagg gcggccgc 1119

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<212> PRT
<213> Homo sapiens

<400> 46
Met Met Gly Ile Phe Leu Val Tyr Val Gly Phe Val Phe Phe Ser Val
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Leu Tyr Val Gln Gln Gly Leu Ser Ser Gln Ala Lys Phe Thr Glu Phe
      20                      25                      30

Pro Arg Asn Val Thr Ala Thr Glu Gly Gln Asn Val Glu Met Ser Cys
      35                      40                      45

Ala Phe Gln Ser Gly Ser Ala Ser Val Tyr Leu Glu Ile Gln Trp Trp
      50                      55                      60

Phe Leu Arg Gly Pro Glu Asp Leu Asp Pro Gly Ala Glu Gly Ala Gly
      65                      70                      75                      80

Ala Gln Val Glu Leu Leu Pro Asp Arg Asp Pro Asp Ser Asp Gly Thr
      85                      90                      95

Lys Ile Ser Thr Val Lys Val Gln Gly Asn Asp Ile Ser His Lys Leu
      100                      105                      110

Gln Ile Ser Lys Val Arg Lys Lys Asp Glu Gly Leu Tyr Glu Cys Arg
      115                      120                      125

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- 53 -

Val Thr Asp Ala Asn Tyr Gly Glu Leu Gln Glu His Lys Ala Gln Ala  
130 135 140

Tyr Leu Lys Val Asn Ala Asn Ser His Ala Arg Arg Met Gln Ala Phe  
145 150 155 160

Glu Ala Ser Pro Met Trp Leu Gln Asp Met Lys Pro Arg Lys Asn Val  
165 170 175

Ser Ala Ala Ile Pro Ser Ser Ile His Gly Ser Ala Asn Gln Arg Thr  
180 185 190

His Ser Thr Ser Ser Pro Gln Val Val Ala Lys Ile Pro Lys Gln Ser  
195 200 205

Pro Gln Ser Gly Met Glu Thr His Phe Glu Pro Phe Ile Leu Pro Leu  
210 215 220

Thr Asn Ala Pro Gln Lys Gly Gln Ser Tyr Arg Val Asp Arg Phe Met  
225 230 235 240

Asn Gly Asp Phe

<210> 47

<211> 735

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(732)

<400> 47

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Met Met Gly Ile Phe Leu Val Tyr Val Gly Phe Val Phe Phe Ser Val  
1 5 10 15

tta tat gta caa caa ggg ctt tct tct caa gca aaa ttt acc gag ttt 96  
Leu Tyr Val Gln Gln Gly Leu Ser Ser Gln Ala Lys Phe Thr Glu Phe  
20 25 30

ccg cgg aac gtg acg gcg acc gag ggg cag aat gtg gag atg tcc tgc 144  
Pro Arg Asn Val Thr Ala Thr Glu Gly Gln Asn Val Glu Met Ser Cys  
35 40 45

gcc ttc cag agc ggc tcc gcc tcg gtg tat ctg gag atc caa tgg tgg 192  
Ala Phe Gln Ser Gly Ser Ala Ser Val Tyr Leu Glu Ile Gln Trp Trp  
50 55 60

ttc ctg cgg ggg ccg gag gac ctg gat ccc ggg gcc gag ggg gcc ggc 240  
Phe Leu Arg Gly Pro Glu Asp Leu Asp Pro Gly Ala Glu Gly Ala Gly  
65 70 75 80

gcg cag gtg gag ctc ttg ccc gac aga gac ccg gac agc gac ggg acc 288  
Ala Gln Val Glu Leu Leu Pro Asp Arg Asp Pro Asp Ser Asp Gly Thr  
85 90 95

- 54 -

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aag atc agc aca gtg aaa gtc caa ggc aat gac atc tcc cac aag ctt 336
Lys Ile Ser Thr Val Lys Val Gln Gly Asn Asp Ile Ser His Lys Leu
      100                      105                      110

cag att tcc aaa gtg agg aaa aag gat gaa ggc tta tat gag tgc agg 384
Gln Ile Ser Lys Val Arg Lys Lys Asp Glu Gly Leu Tyr Glu Cys Arg
      115                      120                      125

gtg act gat gcc aac tac ggg gag ctt cag gaa cac aag gcc cag gcc 432
Val Thr Asp Ala Asn Tyr Gly Glu Leu Gln Glu His Lys Ala Gln Ala
      130                      135                      140

tat ctg aaa gtc aat gcc aac agc cat gcc cgc aga atg cag gcc ttc 480
Tyr Leu Lys Val Asn Ala Asn Ser His Ala Arg Arg Met Gln Ala Phe
      145                      150                      155                      160

gaa gcc tcg ccc atg tgg ctg cag gat atg aag ccc cgc aag aac gtc 528
Glu Ala Ser Pro Met Trp Leu Gln Asp Met Lys Pro Arg Lys Asn Val
      165                      170                      175

tcc gca gcc atc ccc agc agc atc cat ggc tct gcc aac caa cga acg 576
Ser Ala Ala Ile Pro Ser Ser Ile His Gly Ser Ala Asn Gln Arg Thr
      180                      185                      190

cac tcc acc tcc agc cct caa gtg gta gcc aaa atc ccc aaa caa agt 624
His Ser Thr Ser Ser Pro Gln Val Val Ala Lys Ile Pro Lys Gln Ser
      195                      200                      205

cca caa tca ggt atg gaa acc cat ttc gag cct ttt att tta cca ctc 672
Pro Gln Ser Gly Met Glu Thr His Phe Glu Pro Phe Ile Leu Pro Leu
      210                      215                      220

aca aac gct cca cag aaa ggt cag tcg tat aga gta gac aga ttt atg 720
Thr Asn Ala Pro Gln Lys Gly Gln Ser Tyr Arg Val Asp Arg Phe Met
      225                      230                      235                      240

aat ggt gat ttt taa 735
Asn Gly Asp Phe

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&lt;210&gt; 48

&lt;211&gt; 660

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(657)

&lt;400&gt; 48

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caa gca aaa ttt acc gag ttt ccg cgg aac gtg acg gcg acc gag ggg 48
Gln Ala Lys Phe Thr Glu Phe Pro Arg Asn Val Thr Ala Thr Glu Gly
      1                      5                      10                      15

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cag aat gtg gag atg tcc tgc gcc ttc cag agc ggc tcc gcc tcg gtg 96
Gln Asn Val Glu Met Ser Cys Ala Phe Gln Ser Gly Ser Ala Ser Val
      20                      25                      30

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- 55 -

tat ctg gag atc caa tgg tgg ttc ctg cgg ggg ccg gag gac ctg gat	144
Tyr Leu Glu Ile Gln Trp Trp Phe Leu Arg Gly Pro Glu Asp Leu Asp	
35 40 45	
ccc ggg gcc gag ggg gcc gcc ggc cag gtg gag ctc ttg ccc gac aga	192
Pro Gly Ala Glu Gly Ala Gly Ala Gln Val Glu Leu Leu Pro Asp Arg	
50 55 60	
gac ccg gac agc gac ggg acc aag atc agc aca gtg aaa gtc caa ggc	240
Asp Pro Asp Ser Asp Gly Thr Lys Ile Ser Thr Val Lys Val Gln Gly	
65 70 75 80	
aat gac atc tcc cac aag ctt cag att tcc aaa gtg agg aaa aag gat	288
Asn Asp Ile Ser His Lys Leu Gln Ile Ser Lys Val Arg Lys Lys Asp	
85 90 95	
gaa ggc tta tat gag tgc agg gtg act gat gcc aac tac ggg gag ctt	336
Glu Gly Leu Tyr Glu Cys Arg Val Thr Asp Ala Asn Tyr Gly Glu Leu	
100 105 110	
cag gaa cac aag gcc cag gcc tat ctg aaa gtc aat gcc aac agc cat	384
Gln Glu His Lys Ala Gln Ala Tyr Leu Lys Val Asn Ala Asn Ser His	
115 120 125	
gcc cgc aga atg cag gcc ttc gaa gcc tcg ccc atg tgg ctg cag gat	432
Ala Arg Arg Met Gln Ala Phe Glu Ala Ser Pro Met Trp Leu Gln Asp	
130 135 140	
atg aag ccc cgc aag aac gtc tcc gca gcc atc ccc agc agc atc cat	480
Met Lys Pro Arg Lys Asn Val Ser Ala Ala Ile Pro Ser Ser Ile His	
145 150 155 160	
ggc tct gcc aac caa cga acg cac tcc acc tcc agc cct caa gtg gta	528
Gly Ser Ala Asn Gln Arg Thr His Ser Thr Ser Ser Pro Gln Val Val	
165 170 175	
gcc aaa atc ccc aaa caa agt cca caa tca ggt atg gaa acc cat ttc	576
Ala Lys Ile Pro Lys Gln Ser Pro Gln Ser Gly Met Glu Thr His Phe	
180 185 190	
gag cct ttt att tta cca ctc aca aac gct cca cag aaa ggt cag tcg	624
Glu Pro Phe Ile Leu Pro Leu Thr Asn Ala Pro Gln Lys Gly Gln Ser	
195 200 205	
tat aga gta gac aga ttt atg aat ggt gat ttt taa	660
Tyr Arg Val Asp Arg Phe Met Asn Gly Asp Phe	
210 215	
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<211> 219	
<212> PRT	
<213> Homo sapiens	
<400> 49	
Gln Ala Lys Phe Thr Glu Phe Pro Arg Asn Val Thr Ala Thr Glu Gly	
1 5 10 15	
Gln Asn Val Glu Met Ser Cys Ala Phe Gln Ser Gly Ser Ala Ser Val	
20 25 30	



- 57 -

ttt atg ttc ttt tcc gtg tta tat gta caa caa ggg ctt tct tct caa	342
Phe Met Phe Phe Ser Val Leu Tyr Val Gln Gln Gly Leu Ser Ser Gln	
10 15 20 25	
gca aaa ttt acc gag ttg ccg aga aat gtg act gct acc gaa ggg caa	390
Ala Lys Phe Thr Glu Leu Pro Arg Asn Val Thr Ala Thr Glu Gly Gln	
30 35 40	
aat gtg gag atg tcc tgt gct ttc caa agc ggc tct gct tca gtg tac	438
Asn Val Glu Met Ser Cys Ala Phe Gln Ser Gly Ser Ala Ser Val Tyr	
45 50 55	
ctg gag atc cag tgg tgg ttc ctt cgg ggg cca gag gac ctg gag caa	486
Leu Glu Ile Gln Trp Trp Phe Leu Arg Gly Pro Glu Asp Leu Glu Gln	
60 65 70	
ggc acg gag gct gca ggc tcg cag gtg gag ctc tta ccc gac aga gac	534
Gly Thr Glu Ala Ala Gly Ser Gln Val Glu Leu Leu Pro Asp Arg Asp	
75 80 85	
ccg gac aac gat ggg acc aag att agt aca gtg aaa gtc caa ggc aat	582
Pro Asp Asn Asp Gly Thr Lys Ile Ser Thr Val Lys Val Gln Gly Asn	
90 95 100 105	
gat atc tcc cac aag ctt cag ata tcc aaa gtg aga aaa aag gat gaa	630
Asp Ile Ser His Lys Leu Gln Ile Ser Lys Val Arg Lys Lys Asp Glu	
110 115 120	
ggt tta tac gag tgc agg gtg act gac gct aac tac ggg gag ctt cag	678
Gly Leu Tyr Glu Cys Arg Val Thr Asp Ala Asn Tyr Gly Glu Leu Gln	
125 130 135	
gaa cac aag gcc cag gcc tat ctg aaa gtc aat gcc aac agc cat gct	726
Glu His Lys Ala Gln Ala Tyr Leu Lys Val Asn Ala Asn Ser His Ala	
140 145 150	
cgg agg atg cag gcc ttt gaa gcc tca cct atg tgg ctg caa gac acg	774
Arg Arg Met Gln Ala Phe Glu Ala Ser Pro Met Trp Leu Gln Asp Thr	
155 160 165	
aag cct cga aag aac gca tca tcg gtg gtt ccc agc agc gtc cac aac	822
Lys Pro Arg Lys Asn Ala Ser Ser Val Val Pro Ser Ser Val His Asn	
170 175 180 185	
tct gcc aac caa cga atg cac tcc acc tcc agc cct caa gcg gta gcc	870
Ser Ala Asn Gln Arg Met His Ser Thr Ser Ser Pro Gln Ala Val Ala	
190 195 200	
aaa atc ccc aag caa agt cca caa tca gca aag agc aaa tcg cct gta	918
Lys Ile Pro Lys Gln Ser Pro Gln Ser Ala Lys Ser Lys Ser Pro Val	
205 210 215	
aaa tct acg gag cgg aca gca aag ttg acc cta tac tcc aag cac cat	966
Lys Ser Thr Glu Arg Thr Ala Lys Leu Thr Leu Tyr Ser Lys His His	
220 225 230	
tct gca ccc ctg tac tct agt tat cta cac aag gag cat cag ctt ccg	1014
Ser Ala Pro Leu Tyr Ser Ser Tyr Leu His Lys Glu His Gln Leu Pro	
235 240 245	

- 58 -

gaa gca taagtgaaga cactgtcaca cgctttattg ataatatattt ctttggaag 1070  
 Glu Ala  
 250  
 ttgctgatct tttatttcaa gagaattaat gggaagagat aggacatttt ccaattacaa 1130  
 gaccaatttt tttcctttta tttcaacaaa taaaacctgc atttactga ctgctcagga 1190  
 gttggcctga atgacatcag tatactaaat atttccatgg attccaccaa tttcctaacg 1250  
 agggacacct aatcttcaag aagcaaacaa agatggaaaa cctaagaacc acaaactgtc 1310  
 tcatacagca cccagctga ggaacaaaac aaatagctaa atgctgacca tggcaaatca 1370  
 acatcagaca actttatttt acatatggaa taatcaaaga aagttttttt tttacttct 1430  
 ttttgcccc tggaatttat ctggagttt cccttttttc cttgattgcc gttttogttc 1490  
 aatggtagca agtgccaatt atggccaatc cttgtcaatc ctggaagggt tatattcata 1550  
 tacattgagt gtggtatata tcaatgtatt ttaattcatt tggcaatttc tgtataggca 1610  
 aacctggcaa attctgtaaa ttgcttatag tatgtgtgat atgacttcaa ggtagatagg 1670  
 ctatgatgct catgcaagct gactttcttc attctatata caaatatatt catgagcata 1730  
 tattaggcca ccaacttctt ttcctaaaga attatttttc atttgtacct catgtatttt 1790  
 gtgaattttg tagtatattt ctctgttcca ctagtgtgac cgctacagtt tgtctctggt 1850  
 gtcctctact tccttctgga aaaatttaaa attgtgtatg tctctgataa atgaattaat 1910  
 tttgttgtgt gtatgctatg ttggaatttg ctgtgttctt ttaaacaatgt atttattaag 1970  
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 tgttaccaat attctatctc agagaaagaa agacaccaag tgggaaaact aagaagacat 2090  
 tttgacttcc caagatcctg gaagagcact tcacactctg actaaataat gttgcttttt 2150  
 ttgttcttca agactttttt gtagctttgt ctttctgtta gttgctgcta attatatattt 2210  
 aatgtctact aattaaaaat taaaatgtga ttgttggtg aatacaatat gcaaatgact 2270  
 gcaaagccca tactgaagaa aatagatgtt taatcttcac tcaataatta taattttaaa 2330  
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 ttctctggca aagaaagata gaacaatcaa tacattccct cttacagtat ggaatgggtg 2450  
 tggcttaaga aagaatgcat ccagatgggc ttccagagag attattttat tttcattata 2510  
 aaaccagaaa ccatatatgt aggaatgggt cattcctaata gtaaggccat aaattgtagc 2570  
 ttgaaggcaa ggaatacatt tgttttttta tggtaaagga ctggcctctg acatgcactt 2630  
 ataagcaatg tgaatatattt cataatatgc ttgacattct cctttaacaa atattgtttt 2690  
 atggtaaato tttccttgcc attttcttc tttcatttga ttcattattt cattctaattg 2750

- 59 -

aagaaaataa aggtttaatt atgatacttt attaacatac aaatgtatTT tcttttctaag 2810  
ttaaataatct gaaagttgta taaaatgatg gtagagaaat attactcatt cggtttcttt 2870  
gagctttaag aatcccatac attgcagtat atattagaat actgatttaa catcaaactg 2930  
ggggggaaaa tcatgtatta tacttttact caatgtctag gtaatggatt cagctaattt 2990  
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atatgctagt tttggaagaa tgctcattag attcattgta tcagtgtcca aaataataaa 3110  
gacctgttta tcaactgtgaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3170  
aaaaaaaaaa aaaaaagggc ggccgc 3196

&lt;210&gt; 51

&lt;211&gt; 251

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 51

Met Gly Ile Phe Leu Ala Ser Val Gly Phe Met Phe Phe Ser Val Leu  
1 5 10 15

Tyr Val Gln Gln Gly Leu Ser Ser Gln Ala Lys Phe Thr Glu Leu Pro  
20 25 30

Arg Asn Val Thr Ala Thr Glu Gly Gln Asn Val Glu Met Ser Cys Ala  
35 40 45

Phe Gln Ser Gly Ser Ala Ser Val Tyr Leu Glu Ile Gln Trp Trp Phe  
50 55 60

Leu Arg Gly Pro Glu Asp Leu Glu Gln Gly Thr Glu Ala Ala Gly Ser  
65 70 75 80

Gln Val Glu Leu Leu Pro Asp Arg Asp Pro Asp Asn Asp Gly Thr Lys  
85 90 95

Ile Ser Thr Val Lys Val Gln Gly Asn Asp Ile Ser His Lys Leu Gln  
100 105 110

Ile Ser Lys Val Arg Lys Lys Asp Glu Gly Leu Tyr Glu Cys Arg Val  
115 120 125

Thr Asp Ala Asn Tyr Gly Glu Leu Gln Glu His Lys Ala Gln Ala Tyr  
130 135 140

Leu Lys Val Asn Ala Asn Ser His Ala Arg Arg Met Gln Ala Phe Glu  
145 150 155 160

Ala Ser Pro Met Trp Leu Gln Asp Thr Lys Pro Arg Lys Asn Ala Ser  
165 170 175

Ser Val Val Pro Ser Ser Val His Asn Ser Ala Asn Gln Arg Met His  
180 185 190

- 60 -

Ser Thr Ser Ser Pro Gln Ala Val Ala Lys Ile Pro Lys Gln Ser Pro  
 195 200 205

Gln Ser Ala Lys Ser Lys Ser Pro Val Lys Ser Thr Glu Arg Thr Ala  
 210 215 220

Lys Leu Thr Leu Tyr Ser Lys His His Ser Ala Pro Leu Tyr Ser Ser  
 225 230 235 240

Tyr Leu His Lys Glu His Gln Leu Pro Glu Ala  
 245 250

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 1 5 10 15

tat gta caa caa ggg ctt tct tct caa gca aaa ttt acc gag ttg ccg 96  
 Tyr Val Gln Gln Gly Leu Ser Ser Gln Ala Lys Phe Thr Glu Leu Pro  
 20 25 30

aga aat gtg act gct acc gaa ggg caa aat gtg gag atg tcc tgt gct 144  
 Arg Asn Val Thr Ala Thr Glu Gly Gln Asn Val Glu Met Ser Cys Ala  
 35 40 45

ttc caa agc ggc tct gct tca gtg tac ctg gag atc cag tgg tgg ttc 192  
 Phe Gln Ser Gly Ser Ala Ser Val Tyr Leu Glu Ile Gln Trp Trp Phe  
 50 55 60

ctt cgg ggg cca gag gac ctg gag caa ggc acg gag gct gca ggc tcg 240  
 Leu Arg Gly Pro Glu Asp Leu Glu Gln Gly Thr Glu Ala Ala Gly Ser  
 65 70 75 80

cag gtg gag ctc tta ccc gac aga gac ccg gac aac gat ggg acc aag 288  
 Gln Val Glu Leu Leu Pro Asp Arg Asp Pro Asp Asn Asp Gly Thr Lys  
 85 90 95

att agt aca gtg aaa gtc caa ggc aat gat atc tcc cac aag ctt cag 336  
 Ile Ser Thr Val Lys Val Gln Gly Asn Asp Ile Ser His Lys Leu Gln  
 100 105 110

ata tcc aaa gtg aga aaa aag gat gaa ggt tta tac gag tgc agg gtg 384  
 Ile Ser Lys Val Arg Lys Lys Asp Glu Gly Leu Tyr Glu Cys Arg Val  
 115 120 125

act gac gct aac tac ggg gag ctt cag gaa cac aag gcc cag gcc tat 432  
 Thr Asp Ala Asn Tyr Gly Glu Leu Gln Glu His Lys Ala Gln Ala Tyr  
 130 135 140

- 61 -

ctg aaa gtc aat gcc aac agc cat gct cgg agg atg cag gcc ttt gaa 480  
 Leu Lys Val Asn Ala Asn Ser His Ala Arg Arg Met Gln Ala Phe Glu  
 145 150 155 160

gcc tca cct atg tgg ctg caa gac acg aag cct cga aag aac gca tca 528  
 Ala Ser Pro Met Trp Leu Gln Asp Thr Lys Pro Arg Lys Asn Ala Ser  
 165 170 175

tcg gtg gtt ccc agc agc gtc cac aac tct gcc aac caa cga atg cac 576  
 Ser Val Val Pro Ser Ser Val His Asn Ser Ala Asn Gln Arg Met His  
 180 185 190

tcc acc tcc agc cct caa gcg gta gcc aaa atc ccc aag caa agt cca 624  
 Ser Thr Ser Ser Pro Gln Ala Val Ala Lys Ile Pro Lys Gln Ser Pro  
 195 200 205

caa tca gca aag agc aaa tcg cct gta aaa tct acg gag cgg aca gca 672  
 Gln Ser Ala Lys Ser Lys Ser Pro Val Lys Ser Thr Glu Arg Thr Ala  
 210 215 220

aag ttg acc cta tac tcc aag cac cat tct gca ccc ctg tac tct agt 720  
 Lys Leu Thr Leu Tyr Ser Lys His His Ser Ala Pro Leu Tyr Ser Ser  
 225 230 235 240

tat cta cac aag gag cat cag ctt ccg gaa gca taa 756  
 Tyr Leu His Lys Glu His Gln Leu Pro Glu Ala  
 245 250

<210> 53  
 <211> 684  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (1)..(681)

<400> 53

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 Gln Ala Lys Phe Thr Glu Leu Pro Arg Asn Val Thr Ala Thr Glu Gly  
 1 5 10 15

caa aat gtg gag atg tcc tgt gct ttc caa agc ggc tct gct tca gtg 96  
 Gln Asn Val Glu Met Ser Cys Ala Phe Gln Ser Gly Ser Ala Ser Val  
 20 25 30

tac ctg gag atc cag tgg tgg ttc ctt cgg ggg cca gag gac ctg gag 144  
 Tyr Leu Glu Ile Gln Trp Trp Phe Leu Arg Gly Pro Glu Asp Leu Glu  
 35 40 45

caa ggc acg gag gct gca ggc tcg cag gtg gag ctg tta ccc gac aga 192  
 Gln Gly Thr Glu Ala Ala Gly Ser Gln Val Glu Leu Leu Pro Asp Arg  
 50 55 60

gac ccg gac aac gat ggg acc aag att agt aca gtg aaa gtc caa ggc 240  
 Asp Pro Asp Asn Asp Gly Thr Lys Ile Ser Thr Val Lys Val Gln Gly  
 65 70 75 80

- 62 -

aat gat atc tcc cac aag ctt cag ata tcc aaa gtg aga aaa aag gat 288  
 Asn Asp Ile Ser His Lys Leu Gln Ile Ser Lys Val Arg Lys Lys Asp  
                     85                    90                    95

gaa ggt tta tac gag tgc agg gtg act gac gct aac tac ggg gag ctt 336  
 Glu Gly Leu Tyr Glu Cys Arg Val Thr Asp Ala Asn Tyr Gly Glu Leu  
                     100                    105                    110

cag gaa cac aag gcc cag gcc tat ctg aaa gtc aat gcc aac agc cat 384  
 Gln Glu His Lys Ala Gln Ala Tyr Leu Lys Val Asn Ala Asn Ser His  
                     115                    120                    125

gct cgg agg atg cag gcc ttt gaa gcc tca cct atg tgg ctg caa gac 432  
 Ala Arg Arg Met Gln Ala Phe Glu Ala Ser Pro Met Trp Leu Gln Asp  
                     130                    135                    140

acg aag cct cga aag aac gca tca tcg gtg gtt ccc agc agc gtc cac 480  
 Thr Lys Pro Arg Lys Asn Ala Ser Ser Val Val Pro Ser Ser Val His  
                     145                    150                    155                    160

aac tct gcc aac caa cga atg cac tcc acc tcc agc cct caa gcg gta 528  
 Asn Ser Ala Asn Gln Arg Met His Ser Thr Ser Ser Pro Gln Ala Val  
                     165                    170                    175

gcc aaa atc ccc aag caa agt cca caa tca gca aag agc aaa tcg cct 576  
 Ala Lys Ile Pro Lys Gln Ser Pro Gln Ser Ala Lys Ser Lys Ser Pro  
                     180                    185                    190

gta aaa tct acg gag cgg aca gca aag ttg acc cta tac tcc aag cac 624  
 Val Lys Ser Thr Glu Arg Thr Ala Lys Leu Thr Leu Tyr Ser Lys His  
                     195                    200                    205

cat tct gca ccc ctg tac tct agt tat cta cac aag gag cat cag ctt 672  
 His Ser Ala Pro Leu Tyr Ser Ser Tyr Leu His Lys Glu His Gln Leu  
                     210                    215                    220

ccg gaa gca taa 684  
 Pro Glu Ala  
 225

&lt;210&gt; 54

&lt;211&gt; 227

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 54

Gln Ala Lys Phe Thr Glu Leu Pro Arg Asn Val Thr Ala Thr Glu Gly  
           1                    5                    10                    15

Gln Asn Val Glu Met Ser Cys Ala Phe Gln Ser Gly Ser Ala Ser Val  
                     20                    25                    30

Tyr Leu Glu Ile Gln Trp Trp Phe Leu Arg Gly Pro Glu Asp Leu Glu  
                     35                    40                    45

Gln Gly Thr Glu Ala Ala Gly Ser Gln Val Glu Leu Leu Pro Asp Arg  
                     50                    55                    60

- 63 -

Asp Pro Asp Asn Asp Gly Thr Lys Ile Ser Thr Val Lys Val Gln Gly  
 65 70 75 80  
 Asn Asp Ile Ser His Lys Leu Gln Ile Ser Lys Val Arg Lys Lys Asp  
 85 90 95  
 Glu Gly Leu Tyr Glu Cys Arg Val Thr Asp Ala Asn Tyr Gly Glu Leu  
 100 105 110  
 Gln Glu His Lys Ala Gln Ala Tyr Leu Lys Val Asn Ala Asn Ser His  
 115 120 125  
 Ala Arg Arg Met Gln Ala Phe Glu Ala Ser Pro Met Trp Leu Gln Asp  
 130 135 140  
 Thr Lys Pro Arg Lys Asn Ala Ser Ser Val Val Pro Ser Ser Val His  
 145 150 155 160  
 Asn Ser Ala Asn Gln Arg Met His Ser Thr Ser Ser Pro Gln Ala Val  
 165 170 175  
 Ala Lys Ile Pro Lys Gln Ser Pro Gln Ser Ala Lys Ser Lys Ser Pro  
 180 185 190  
 Val Lys Ser Thr Glu Arg Thr Ala Lys Leu Thr Leu Tyr Ser Lys His  
 195 200 205  
 His Ser Ala Pro Leu Tyr Ser Ser Tyr Leu His Lys Glu His Gln Leu  
 210 215 220  
 Pro Glu Ala  
 225  
 <210> 55  
 <211> 89  
 <212> PRT  
 <213> Homo sapiens  
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 Gly Gln Asn Val Glu Met Ser Cys Ala Phe Gln Ser Gly Ser Ala Ser  
 1 5 10 15  
 Val Tyr Leu Glu Ile Gln Trp Trp Phe Leu Arg Gly Pro Glu Asp Leu  
 20 25 30  
 Asp Pro Gly Ala Glu Gly Ala Gly Ala Gln Val Glu Leu Leu Pro Asp  
 35 40 45  
 Arg Asp Pro Asp Ser Asp Gly Thr Lys Ile Ser Thr Val Lys Val Gln  
 50 55 60  
 Gly Asn Asp Ile Ser His Lys Leu Gln Ile Ser Lys Val Arg Lys Lys  
 65 70 75 80  
 Asp Glu Gly Leu Tyr Glu Cys Arg Val  
 85

- 64 -

<210> 56  
 <211> 89  
 <212> PRT  
 <213> Mus musculus

<400> 56  
 Gly Gln Asn Val Glu Met Ser Cys Ala Phe Gln Ser Gly Ser Ala Ser  
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 Val Tyr Leu Glu Ile Gln Trp Trp Phe Leu Arg Gly Pro Glu Asp Leu  
                     20                    25                    30  
 Glu Gln Gly Thr Glu Ala Ala Gly Ser Gln Val Glu Leu Leu Pro Asp  
                     35                    40                    45  
 Arg Asp Pro Asp Asn Asp Gly Thr Lys Ile Ser Thr Val Lys Val Gln  
                     50                    55                    60  
 Gly Asn Asp Ile Ser His Lys Leu Gln Ile Ser Lys Val Arg Lys Lys  
                     65                    70                    75                    80  
 Asp Glu Gly Leu Tyr Glu Cys Arg Val  
                     85

<210> 57  
 <211> 47  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Consensus  
         sequence

<400> 57  
 Gly Gln Ser Val Thr Leu Thr Cys Met Val Ser Phe His Pro Pro Asp  
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 Tyr Thr Ile Trp Trp Tyr Arg Asn Gly Gln Pro Ile Thr Leu Thr Ile  
                     20                    25                    30  
 Asn Ser Trp Gln Tyr Glu Asp Ser Glu Thr Tyr Trp Cys Met Val  
                     35                    40                    45

<210> 58  
 <211> 2852  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (160)..(2178)

<400> 58  
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 ggaccacagga cccctcggg cccgaccgc caggaaagac tgaggccgcg gcctgccccg 120

- 65 -

cccggctccc tgcgcgcgcg ccgcctcccg ggacagaag atg tgc tcc agg gtc	174
Met Cys Ser Arg Val	
1 5	
cct ctg ctg ctg ccg ctg ctc ctg cta ctg gcc ctg ggg cct ggg gtg	222
Pro Leu Leu Leu Pro Leu Leu Leu Leu Leu Ala Leu Gly Pro Gly Val	
10 15 20	
cag ggc tgc cca tcc ggc tgc cag tgc agc cag cca cag aca gtc ttc	270
Gln Gly Cys Pro Ser Gly Cys Gln Cys Ser Gln Pro Gln Thr Val Phe	
25 30 35	
tgc act gcc cgc cag ggg acc acg gtg ccc cga gac gtg cca ccc gac	318
Cys Thr Ala Arg Gln Gly Thr Thr Val Pro Arg Asp Val Pro Pro Asp	
40 45 50	
acg gtg ggg ctg tac gtc ttt gag aac ggc atc acc atg ctc gac gca	366
Thr Val Gly Leu Tyr Val Phe Glu Asn Gly Ile Thr Met Leu Asp Ala	
55 60 65	
ggc agc ttt gcc ggc ctg ccg ggc ctg cag ctc ctg gac ctg tca cag	414
Gly Ser Phe Ala Gly Leu Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln	
70 75 80 85	
aac cag atc gcc agc ctg ccc agc ggc gtc ttc cag cca ctc gcc aac	462
Asn Gln Ile Ala Ser Leu Pro Ser Gly Val Phe Gln Pro Leu Ala Asn	
90 95 100	
ctc agc aac ctg gac ctg acg gcc aac agg ctg cat gaa atc acc aat	510
Leu Ser Asn Leu Asp Leu Thr Ala Asn Arg Leu His Glu Ile Thr Asn	
105 110 115	
gag acc ttc cgt ggc ctg cgg cgc ctc gag cgc ctc tac ctg ggc aag	558
Glu Thr Phe Arg Gly Leu Arg Arg Leu Glu Arg Leu Tyr Leu Gly Lys	
120 125 130	
aac cgc atc cgc cac atc cag cct ggt gcc ttc gac acg ctc gac cgc	606
Asn Arg Ile Arg His Ile Gln Pro Gly Ala Phe Asp Thr Leu Asp Arg	
135 140 145	
ctc ctg gag ctc aag ctg cag gac aac gag ctg cgg gca ctg ccc ccg	654
Leu Leu Glu Leu Lys Leu Gln Asp Asn Glu Leu Arg Ala Leu Pro Pro	
150 155 160 165	
ctg cgc ctg ccc cgc ctg ctg ctg ctg gac ctc agc cac aac agc ctc	702
Leu Arg Leu Pro Arg Leu Leu Leu Leu Asp Leu Ser His Asn Ser Leu	
170 175 180	
ctg gcc ctg gag ccc ggc atc ctg gac act gcc aac gtg gag gcg ctg	750
Leu Ala Leu Glu Pro Gly Ile Leu Asp Thr Ala Asn Val Glu Ala Leu	
185 190 195	
cgg ctg gct ggt ctg ggg ctg cag cag ctg gac gag ggg ctc ttc agc	798
Arg Leu Ala Gly Leu Gly Leu Gln Gln Leu Asp Glu Gly Leu Phe Ser	
200 205 210	
cgc ttg cgc aac ctc cac gac ctg gat gtg tcc gac aac cag ctg gag	846
Arg Leu Arg Asn Leu His Asp Leu Asp Val Ser Asp Asn Gln Leu Glu	
215 220 225	

- 66 -

cga	gtg	cca	cct	gtg	atc	cga	ggc	ctc	cgg	ggc	ctg	acg	cgc	ctg	cgg	894
Arg	Val	Pro	Pro	Val	Ile	Arg	Gly	Leu	Arg	Gly	Leu	Thr	Arg	Leu	Arg	
230					235					240					245	
ctg	gcc	ggc	aac	acc	cgc	att	gcc	cag	ctg	cgg	ccc	gag	gac	ctg	gcc	942
Leu	Ala	Gly	Asn	Thr	Arg	Ile	Ala	Gln	Leu	Arg	Pro	Glu	Asp	Leu	Ala	
			250						255						260	
ggc	ctg	gct	gcc	ctg	cag	gag	ctg	gat	gtg	agc	aac	cta	agc	ctg	cag	990
Gly	Leu	Ala	Ala	Leu	Gln	Glu	Leu	Asp	Val	Ser	Asn	Leu	Ser	Leu	Gln	
			265					270					275			
gcc	ctg	cct	ggc	gac	ctc	tcg	ggc	ctc	ttc	ccc	cgc	ctg	cgg	ctg	ctg	1038
Ala	Leu	Pro	Gly	Asp	Leu	Ser	Gly	Leu	Phe	Pro	Arg	Leu	Arg	Leu	Leu	
		280					285					290				
gca	gct	gcc	cgc	aac	ccc	ttc	aac	tgc	gtg	tgc	ccc	ctg	agc	tgg	ttt	1086
Ala	Ala	Ala	Arg	Asn	Pro	Phe	Asn	Cys	Val	Cys	Pro	Leu	Ser	Trp	Phe	
	295				300						305					
ggc	ccc	tgg	gtg	cgc	gag	agc	cac	gtc	aca	ctg	gcc	agc	cct	gag	gag	1134
Gly	Pro	Trp	Val	Arg	Glu	Ser	His	Val	Thr	Leu	Ala	Ser	Pro	Glu	Glu	
310					315					320					325	
acg	cgc	tgc	cac	ttc	ccg	ccc	aag	aac	gct	ggc	cgg	ctg	ctc	ctg	gag	1182
Thr	Arg	Cys	His	Phe	Pro	Pro	Lys	Asn	Ala	Gly	Arg	Leu	Leu	Leu	Glu	
			330					335							340	
ctt	gac	tac	gcc	gac	ttt	ggc	tgc	cca	gcc	acc	acc	acc	aca	gcc	aca	1230
Leu	Asp	Tyr	Ala	Asp	Phe	Gly	Cys	Pro	Ala	Thr	Thr	Thr	Thr	Ala	Thr	
			345					350					355			
gtg	ccc	acc	acg	agg	ccc	gtg	gtg	cgg	gag	ccc	aca	gcc	ttg	tct	tct	1278
Val	Pro	Thr	Thr	Arg	Pro	Val	Val	Arg	Glu	Pro	Thr	Ala	Leu	Ser	Ser	
		360				365						370				
agc	ttg	gct	cct	acc	tgg	ctt	agc	ccc	aca	gcg	ccg	gcc	act	gag	gcc	1326
Ser	Leu	Ala	Pro	Thr	Trp	Leu	Ser	Pro	Thr	Ala	Pro	Ala	Thr	Glu	Ala	
	375					380					385					
ccc	agc	ccg	ccc	tcc	act	gcc	cca	ccg	act	gta	ggg	cct	gtc	ccc	cag	1374
Pro	Ser	Pro	Pro	Ser	Thr	Ala	Pro	Pro	Thr	Val	Gly	Pro	Val	Pro	Gln	
390					395					400					405	
ccc	cag	gac	tgc	cca	ccg	tcc	acc	tgc	ctc	aat	ggg	ggc	aca	tgc	cac	1422
Pro	Gln	Asp	Cys	Pro	Pro	Ser	Thr	Cys	Leu	Asn	Gly	Gly	Thr	Cys	His	
			410					415						420		
ctg	ggg	aca	cgg	cac	cac	ctg	gcg	tgc	ttg	tgc	ccc	gaa	ggc	ttc	acg	1470
Leu	Gly	Thr	Arg	His	His	Leu	Ala	Cys	Leu	Cys	Pro	Glu	Gly	Phe	Thr	
			425					430					435			
ggc	ctg	tac	tgt	gag	agc	cag	atg	ggg	cag	ggg	aca	cgg	ccc	agc	cct	1518
Gly	Leu	Tyr	Cys	Glu	Ser	Gln	Met	Gly	Gln	Gly	Thr	Arg	Pro	Ser	Pro	
		440					445					450				
aca	cca	gtc	acg	ccg	agg	cca	cca	cgg	tcc	ctg	acc	ctg	ggc	atc	gag	1566
Thr	Pro	Val	Thr	Pro	Arg	Pro	Pro	Arg	Ser	Leu	Thr	Leu	Gly	Ile	Glu	
	455					460					465					

- 67 -

ccg gtg agc ccc acc tcc ctg cgc gtg ggg ctg cag cgc tac ctc cag 1614  
 Pro Val Ser Pro Thr Ser Leu Arg Val Gly Leu Gln Arg Tyr Leu Gln  
 470 475 480 485

ggg agc tcc gtg cag ctc agg agc ctc cgt ctc acc tat cgc aac cta 1662  
 Gly Ser Ser Val Gln Leu Arg Ser Leu Arg Leu Thr Tyr Arg Asn Leu  
 490 495 500

tcg ggc cct gat aag cgg ctg gtg acg ctg cga ctg cct gcc tcg ctc 1710  
 Ser Gly Pro Asp Lys Arg Leu Val Thr Leu Arg Leu Pro Ala Ser Leu  
 505 510 515

gct gag tac acg gtc acc cag ctg cgg ccc aac gcc act tac tcc gtc 1758  
 Ala Glu Tyr Thr Val Thr Gln Leu Arg Pro Asn Ala Thr Tyr Ser Val  
 520 525 530

tgt gtc atg cct ttg ggg ccc ggg cgg gtg ccg gag ggc gag gag gcc 1806  
 Cys Val Met Pro Leu Gly Pro Gly Arg Val Pro Glu Gly Glu Glu Ala  
 535 540 545

tgc ggg gag gcc cat aca ccc cca gcc gtc cac tcc aac cac gcc cca 1854  
 Cys Gly Glu Ala His Thr Pro Pro Ala Val His Ser Asn His Ala Pro  
 550 555 560 565

gtc acc cag gcc cgc gag ggc aac ctg ccg ctc ctc att gcg ccc gcc 1902  
 Val Thr Gln Ala Arg Glu Gly Asn Leu Pro Leu Leu Ile Ala Pro Ala  
 570 575 580

ctg gcc gcg gtg ctc ctg gcc gcg ctg gct gcg gtg ggg gca gcc tac 1950  
 Leu Ala Ala Val Leu Leu Ala Ala Leu Ala Ala Val Gly Ala Ala Tyr  
 585 590 595

tgt gtg cgg cgg ggg cgg gcc atg gca gca gcg gct cag gac aaa ggg 1998  
 Cys Val Arg Arg Gly Arg Ala Met Ala Ala Ala Ala Gln Asp Lys Gly  
 600 605 610

cag gtg ggg cca ggg gct ggg ccc ctg gaa ctg gag gga gtg aag gtc 2046  
 Gln Val Gly Pro Gly Ala Gly Pro Leu Glu Leu Glu Gly Val Lys Val  
 615 620 625

ccc ttg gag cca ggc ccg aag gca aca gag ggc ggt gga gag gcc ctg 2094  
 Pro Leu Glu Pro Gly Pro Lys Ala Thr Glu Gly Gly Gly Glu Ala Leu  
 630 635 640 645

ccc agc ggg tct gag tgt gag gtg cca ctc atg ggc ttc cca ggg cct 2142  
 Pro Ser Gly Ser Glu Cys Glu Val Pro Leu Met Gly Phe Pro Gly Pro  
 650 655 660

ggc ctc cag tca ccc ctc cac gca aag ccc tac atc taagccagag 2188  
 Gly Leu Gln Ser Pro Leu His Ala Lys Pro Tyr Ile  
 665 670

agagacaggg cagctggggc cgggctctca gccagtgaga tggccagccc cctcctgctg 2248

ccacaccacg taagttctca gtcccaacct cggggatgtg tgcagacagg gctgtgtgac 2308

cacagctggg cctgttccc tctggacctc ggtctctca tctgtgagat gctgtggccc 2368

agctgacgag cctaacgtc ccagaaccg agtgcctatg aggacagtgt ccgcctgcc 2428

- 68 -

ctccgcaacg tgcagtcctt gggcacggcg ggccttgcca tgtgctggta acgcatgcct 2488  
 gggccctgct gggctctccc actccaggcg gaccctgggg gccagtgaag gaagctcccc 2548  
 gaaagagcag agggagagcg ggtaggcggc tgtgtgactc tagtcttggc cccaggaagc 2608  
 gaaggaacaa aagaaactgg aaaggaagat gctttaggaa catgttttgc ttttttaaaa 2668  
 tatatatata ttataagag atcctttccc atttattctg ggaagatgtt tttcaaactc 2728  
 agagacaagg actttggttt ttgtaagaca aacgatgata tgaaggcctt ttgtaagaaa 2788  
 aaataaaaaga tgaagtgtga aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaagggcg 2848  
 ccgc 2852

&lt;210&gt; 59

&lt;211&gt; 673

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 59

Met	Cys	Ser	Arg	Val	Pro	Leu	Leu	Leu	Pro	Leu	Leu	Leu	Leu	Ala	
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Leu	Gly	Pro	Gly	Val	Gln	Gly	Cys	Pro	Ser	Gly	Cys	Gln	Cys	Ser	Gln
			20					25					30		
Pro	Gln	Thr	Val	Phe	Cys	Thr	Ala	Arg	Gln	Gly	Thr	Thr	Val	Pro	Arg
			35				40					45			
Asp	Val	Pro	Pro	Asp	Thr	Val	Gly	Leu	Tyr	Val	Phe	Glu	Asn	Gly	Ile
	50					55					60				
Thr	Met	Leu	Asp	Ala	Gly	Ser	Phe	Ala	Gly	Leu	Pro	Gly	Leu	Gln	Leu
	65				70					75					80
Leu	Asp	Leu	Ser	Gln	Asn	Gln	Ile	Ala	Ser	Leu	Pro	Ser	Gly	Val	Phe
				85					90					95	
Gln	Pro	Leu	Ala	Asn	Leu	Ser	Asn	Leu	Asp	Leu	Thr	Ala	Asn	Arg	Leu
			100					105					110		
His	Glu	Ile	Thr	Asn	Glu	Thr	Phe	Arg	Gly	Leu	Arg	Arg	Leu	Glu	Arg
		115					120					125			
Leu	Tyr	Leu	Gly	Lys	Asn	Arg	Ile	Arg	His	Ile	Gln	Pro	Gly	Ala	Phe
	130					135					140				
Asp	Thr	Leu	Asp	Arg	Leu	Leu	Glu	Leu	Lys	Leu	Gln	Asp	Asn	Glu	Leu
	145				150					155				160	
Arg	Ala	Leu	Pro	Pro	Leu	Arg	Leu	Pro	Arg	Leu	Leu	Leu	Leu	Asp	Leu
				165					170					175	
Ser	His	Asn	Ser	Leu	Leu	Ala	Leu	Glu	Pro	Gly	Ile	Leu	Asp	Thr	Ala
			180					185					190		

- 69 -

Asn Val Glu Ala Leu Arg Leu Ala Gly Leu Gly Leu Gln Gln Leu Asp  
 195 200 205

Glu Gly Leu Phe Ser Arg Leu Arg Asn Leu His Asp Leu Asp Val Ser  
 210 215 220

Asp Asn Gln Leu Glu Arg Val Pro Pro Val Ile Arg Gly Leu Arg Gly  
 225 230 235 240

Leu Thr Arg Leu Arg Leu Ala Gly Asn Thr Arg Ile Ala Gln Leu Arg  
 245 250 255

Pro Glu Asp Leu Ala Gly Leu Ala Ala Leu Gln Glu Leu Asp Val Ser  
 260 265 270

Asn Leu Ser Leu Gln Ala Leu Pro Gly Asp Leu Ser Gly Leu Phe Pro  
 275 280 285

Arg Leu Arg Leu Leu Ala Ala Ala Arg Asn Pro Phe Asn Cys Val Cys  
 290 295 300

Pro Leu Ser Trp Phe Gly Pro Trp Val Arg Glu Ser His Val Thr Leu  
 305 310 315 320

Ala Ser Pro Glu Glu Thr Arg Cys His Phe Pro Pro Lys Asn Ala Gly  
 325 330 335

Arg Leu Leu Leu Glu Leu Asp Tyr Ala Asp Phe Gly Cys Pro Ala Thr  
 340 345 350

Thr Thr Thr Ala Thr Val Pro Thr Thr Arg Pro Val Val Arg Glu Pro  
 355 360 365

Thr Ala Leu Ser Ser Ser Leu Ala Pro Thr Trp Leu Ser Pro Thr Ala  
 370 375 380

Pro Ala Thr Glu Ala Pro Ser Pro Pro Ser Thr Ala Pro Pro Thr Val  
 385 390 395 400

Gly Pro Val Pro Gln Pro Gln Asp Cys Pro Pro Ser Thr Cys Leu Asn  
 405 410 415

Gly Gly Thr Cys His Leu Gly Thr Arg His His Leu Ala Cys Leu Cys  
 420 425 430

Pro Glu Gly Phe Thr Gly Leu Tyr Cys Glu Ser Gln Met Gly Gln Gly  
 435 440 445

Thr Arg Pro Ser Pro Thr Pro Val Thr Pro Arg Pro Pro Arg Ser Leu  
 450 455 460

Thr Leu Gly Ile Glu Pro Val Ser Pro Thr Ser Leu Arg Val Gly Leu  
 465 470 475 480

Gln Arg Tyr Leu Gln Gly Ser Ser Val Gln Leu Arg Ser Leu Arg Leu  
 485 490 495

Thr Tyr Arg Asn Leu Ser Gly Pro Asp Lys Arg Leu Val Thr Leu Arg  
 500 505 510

- 70 -

Leu Pro Ala Ser Leu Ala Glu Tyr Thr Val Thr Gln Leu Arg Pro Asn  
515 520 525

Ala Thr Tyr Ser Val Cys Val Met Pro Leu Gly Pro Gly Arg Val Pro  
530 535 540

Glu Gly Glu Glu Ala Cys Gly Glu Ala His Thr Pro Pro Ala Val His  
545 550 555 560

Ser Asn His Ala Pro Val Thr Gln Ala Arg Glu Gly Asn Leu Pro Leu  
565 570 575

Leu Ile Ala Pro Ala Leu Ala Ala Val Leu Leu Ala Ala Leu Ala Ala  
580 585 590

Val Gly Ala Ala Tyr Cys Val Arg Arg Gly Arg Ala Met Ala Ala Ala  
595 600 605

Ala Gln Asp Lys Gly Gln Val Gly Pro Gly Ala Gly Pro Leu Glu Leu  
610 615 620

Glu Gly Val Lys Val Pro Leu Glu Pro Gly Pro Lys Ala Thr Glu Gly  
625 630 635 640

Gly Gly Glu Ala Leu Pro Ser Gly Ser Glu Cys Glu Val Pro Leu Met  
645 650 655

Gly Phe Pro Gly Pro Gly Leu Gln Ser Pro Leu His Ala Lys Pro Tyr  
660 665 670

Ile

<210> 60

<211> 2019

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(2019)

<400> 60

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Met Cys Ser Arg Val Pro Leu Leu Leu Pro Leu Leu Leu Leu Leu Ala  
1 5 10 15

ctg ggg cct ggg gtg cag ggc tgc cca tcc ggc tgc cag tgc agc cag 96  
Leu Gly Pro Gly Val Gln Gly Cys Pro Ser Gly Cys Gln Cys Ser Gln  
20 25 30

cca cag aca gtc ttc tgc act gcc cgc cag ggg acc acg gtg ccc cga 144  
Pro Gln Thr Val Phe Cys Thr Ala Arg Gln Gly Thr Thr Val Pro Arg  
35 40 45

gac gtg cca ccc gac acg gtg ggg ctg tac gtc ttt gag aac ggc atc 192  
Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe Glu Asn Gly Ile  
50 55 60

- 71 -

acc atg ctc gac gca ggc agc ttt gcc ggc ctg ccg ggc ctg cag ctc	240
Thr Met Leu Asp Ala Gly Ser Phe Ala Gly Leu Pro Gly Leu Gln Leu	
65 70 75 80	
ctg gac ctg tca cag aac cag atc gcc agc ctg ccc agc ggg gtc ttc	288
Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser Leu Pro Ser Gly Val Phe	
85 90 95	
cag cca ctc gcc aac ctc agc aac ctg gac ctg acg gcc aac agg ctg	336
Gln Pro Leu Ala Asn Leu Ser Asn Leu Asp Leu Thr Ala Asn Arg Leu	
100 105 110	
cat gaa atc acc aat gag acc ttc cgt ggc ctg cgg cgc ctc gag cgc	384
His Glu Ile Thr Asn Glu Thr Phe Arg Gly Leu Arg Arg Leu Glu Arg	
115 120 125	
ctc tac ctg ggc aag aac cgc atc cgc cac atc cag cct ggt gcc ttc	432
Leu Tyr Leu Gly Lys Asn Arg Ile Arg His Ile Gln Pro Gly Ala Phe	
130 135 140	
gac acg ctc gac cgc ctc ctg gag ctc aag ctg cag gac aac gag ctg	480
Asp Thr Leu Asp Arg Leu Leu Glu Leu Lys Leu Gln Asp Asn Glu Leu	
145 150 155 160	
cgg gca ctg ccc ccg ctg cgc ctg ccc cgc ctg ctg ctg ctg gac ctc	528
Arg Ala Leu Pro Pro Leu Arg Leu Pro Arg Leu Leu Leu Leu Asp Leu	
165 170 175	
agc cac aac agc ctc ctg gcc ctg gag ccc ggc atc ctg gac act gcc	576
Ser His Asn Ser Leu Leu Ala Leu Glu Pro Gly Ile Leu Asp Thr Ala	
180 185 190	
aac gtg gag gcg ctg cgg ctg gct ggt ctg ggg ctg cag cag ctg gac	624
Asn Val Glu Ala Leu Arg Leu Ala Gly Leu Gly Leu Gln Gln Leu Asp	
195 200 205	
gag ggg ctc ttc agc cgc ttg cgc aac ctc cac gac ctg gat gtg tcc	672
Glu Gly Leu Phe Ser Arg Leu Arg Asn Leu His Asp Leu Asp Val Ser	
210 215 220	
gac aac cag ctg gag cga gtg cca cct gtg atc cga ggc ctc cgg ggc	720
Asp Asn Gln Leu Glu Arg Val Pro Pro Val Ile Arg Gly Leu Arg Gly	
225 230 235 240	
ctg acg cgc ctg cgg ctg gcc ggc aac acc cgc att gcc cag ctg cgg	768
Leu Thr Arg Leu Arg Leu Ala Gly Asn Thr Arg Ile Ala Gln Leu Arg	
245 250 255	
ccc gag gac ctg gcc ggc ctg gct gcc ctg cag gag ctg gat gtg agc	816
Pro Glu Asp Leu Ala Gly Leu Ala Ala Leu Gln Glu Leu Asp Val Ser	
260 265 270	
aac cta agc ctg cag gcc ctg cct ggc gac ctc tcg ggc ctc ttc ccc	864
Asn Leu Ser Leu Gln Ala Leu Pro Gly Asp Leu Ser Gly Leu Phe Pro	
275 280 285	
cgc ctg cgg ctg ctg gca gct gcc cgc aac ccc ttc aac tgc gtg tgc	912
Arg Leu Arg Leu Leu Ala Ala Ala Arg Asn Pro Phe Asn Cys Val Cys	
290 295 300	

- 72 -

ccc ctg agc tgg ttt ggc ccc tgg gtg cgc gag agc cac gtc aca ctg	960
Pro Leu Ser Trp Phe Gly Pro Trp Val Arg Glu Ser His Val Thr Leu	
305 310 315 320	
gcc agc cct gag gag acg cgc tgc cac ttc ccg ccc aag aac gct ggc	1008
Ala Ser Pro Glu Glu Thr Arg Cys His Phe Pro Pro Lys Asn Ala Gly	
325 330 335	
cgg ctg ctc ctg gag ctt gac tac gcc gac ttt ggc tgc cca gcc acc	1056
Arg Leu Leu Leu Glu Leu Asp Tyr Ala Asp Phe Gly Cys Pro Ala Thr	
340 345 350	
acc acc aca gcc aca gtg ccc acc acg agg ccc gtg gtg cgg gag ccc	1104
Thr Thr Thr Ala Thr Val Pro Thr Thr Arg Pro Val Val Arg Glu Pro	
355 360 365	
aca gcc ttg tct tct agc ttg gct cct acc tgg ctt agc ccc aca gcg	1152
Thr Ala Leu Ser Ser Ser Leu Ala Pro Thr Trp Leu Ser Pro Thr Ala	
370 375 380	
ccg gcc act gag gcc ccc agc ccg ccc tcc act gcc cca ccg act gta	1200
Pro Ala Thr Glu Ala Pro Ser Pro Pro Ser Thr Ala Pro Pro Thr Val	
385 390 395 400	
ggg cct gtc ccc cag ccc cag gac tgc cca ccg tcc acc tgc ctc aat	1248
Gly Pro Val Pro Gln Pro Gln Asp Cys Pro Pro Ser Thr Cys Leu Asn	
405 410 415	
ggg ggc aca tgc cac ctg ggg aca cgg cac cac ctg gcg tgc ttg tgc	1296
Gly Gly Thr Cys His Leu Gly Thr Arg His His Leu Ala Cys Leu Cys	
420 425 430	
ccc gaa ggc ttc acg ggc ctg tac tgt gag agc cag atg ggg cag ggg	1344
Pro Glu Gly Phe Thr Gly Leu Tyr Cys Glu Ser Gln Met Gly Gln Gly	
435 440 445	
aca cgg ccc agc cct aca cca gtc acg ccg agg cca cca cgg tcc ctg	1392
Thr Arg Pro Ser Pro Thr Pro Val Thr Pro Arg Pro Pro Arg Ser Leu	
450 455 460	
acc ctg ggc atc gag ccg gtg agc ccc acc tcc ctg cgc gtg ggg ctg	1440
Thr Leu Gly Ile Glu Pro Val Ser Pro Thr Ser Leu Arg Val Gly Leu	
465 470 475 480	
cag cgc tac ctc cag ggg agc tcc gtg cag ctc agg agc ctc cgt ctc	1488
Gln Arg Tyr Leu Gln Gly Ser Ser Val Gln Leu Arg Ser Leu Arg Leu	
485 490 495	
acc tat cgc aac cta tog ggc cct gat aag cgg ctg gtg acg ctg cga	1536
Thr Tyr Arg Asn Leu Ser Gly Pro Asp Lys Arg Leu Val Thr Leu Arg	
500 505 510	
ctg cct gcc tcg ctc gct gag tac acg gtc acc cag ctg cgg ccc aac	1584
Leu Pro Ala Ser Leu Ala Glu Tyr Thr Val Thr Gln Leu Arg Pro Asn	
515 520 525	
gcc act tac tcc gtc tgt gtc atg cct ttg ggg ccc ggg cgg gtg ccg	1632
Ala Thr Tyr Ser Val Cys Val Met Pro Leu Gly Pro Gly Arg Val Pro	
530 535 540	

- 73 -

gag ggc gag gag gcc tgc ggg gag gcc cat aca ccc cca gcc gtc cac 1680  
Glu Gly Glu Glu Ala Cys Gly Glu Ala His Thr Pro Pro Ala Val His  
545 550 555 560

tcc aac cac gcc cca gtc acc cag gcc cgc gag ggc aac ctg ccg ctc 1728  
Ser Asn His Ala Pro Val Thr Gln Ala Arg Glu Gly Asn Leu Pro Leu  
565 570 575

ctc att gcg ccc gcc ctg gcc gcg gtg ctc ctg gcc gcg ctg gct gcg 1776  
Leu Ile Ala Pro Ala Leu Ala Ala Val Leu Leu Ala Ala Leu Ala Ala  
580 585 590

gtg ggg gca gcc tac tgt gtg cgg cgg ggg cgg gcc atg gca gca gcg 1824  
Val Gly Ala Ala Tyr Cys Val Arg Arg Gly Arg Ala Met Ala Ala Ala  
595 600 605

gct cag gac aaa ggg cag gtg ggg cca ggg gct ggg ccc ctg gaa ctg 1872  
Ala Gln Asp Lys Gly Gln Val Gly Pro Gly Ala Gly Pro Leu Glu Leu  
610 615 620

gag gga gtg aag gtc ccc ttg gag cca ggc ccg aag gca aca gag ggc 1920  
Glu Gly Val Lys Val Pro Leu Glu Pro Gly Pro Lys Ala Thr Glu Gly  
625 630 635 640

ggg gga gag gcc ctg ccc agc ggg tct gag tgt gag gtg cca ctc atg 1968  
Gly Gly Glu Ala Leu Pro Ser Gly Ser Glu Cys Glu Val Pro Leu Met  
645 650 655

ggc ttc cca ggg cct ggc ctc cag tca ccc ctc cac gca aag ccc tac 2016  
Gly Phe Pro Gly Pro Gly Leu Gln Ser Pro Leu His Ala Lys Pro Tyr  
660 665 670

atc 2019  
Ile

<210> 61  
<211> 560  
<212> PRT  
<213> Homo sapiens

<400> 61  
Met Leu Arg Gly Thr Leu Leu Cys Ala Val Leu Gly Leu Leu Arg Ala  
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Gln Pro Phe Pro Cys Pro Pro Ala Cys Lys Cys Val Phe Arg Asp Ala  
20 25 30

Ala Gln Cys Ser Gly Gly Asp Val Ala Arg Ile Ser Ala Leu Gly Leu  
35 40 45

Pro Thr Asn Leu Thr His Ile Leu Leu Phe Gly Met Gly Arg Gly Val  
50 55 60

Leu Gln Ser Gln Ser Phe Ser Gly Met Thr Val Leu Gln Arg Leu Met  
65 70 75 80

Ile Ser Asp Ser His Ile Ser Ala Val Ala Pro Gly Thr Phe Ser Asp  
85 90 95

- 74 -

Leu Ile Lys Leu Lys Thr Leu Arg Leu Ser Arg Asn Lys Ile Thr His  
 100 105 110

Leu Pro Gly Ala Leu Leu Asp Lys Met Val Leu Leu Glu Gln Leu Phe  
 115 120 125

Leu Asp His Asn Ala Leu Arg Gly Ile Asp Gln Asn Met Phe Gln Lys  
 130 135 140

Leu Val Asn Leu Gln Glu Leu Ala Leu Asn Gln Asn Gln Leu Asp Phe  
 145 150 155 160

Leu Pro Ala Ser Leu Phe Thr Asn Leu Glu Asn Leu Lys Leu Leu Asp  
 165 170 175

Leu Ser Gly Asn Asn Leu Thr His Leu Pro Lys Gly Leu Leu Gly Ala  
 180 185 190

Gln Ala Lys Leu Glu Arg Leu Leu Leu His Ser Asn Arg Leu Val Ser  
 195 200 205

Leu Asp Ser Gly Leu Leu Asn Ser Leu Gly Ala Leu Thr Glu Leu Gln  
 210 215 220

Phe His Arg Asn His Ile Arg Ser Ile Ala Pro Gly Ala Phe Asp Arg  
 225 230 235 240

Leu Pro Asn Leu Ser Ser Leu Thr Leu Ser Arg Asn His Leu Ala Phe  
 245 250 255

Leu Pro Ser Ala Leu Phe Leu His Ser His Asn Leu Thr Leu Leu Thr  
 260 265 270

Leu Phe Glu Asn Pro Leu Ala Glu Leu Pro Gly Val Leu Phe Gly Glu  
 275 280 285

Met Gly Gly Leu Gln Glu Leu Trp Leu Asn Arg Thr Gln Leu Arg Thr  
 290 295 300

Leu Pro Ala Ala Ala Phe Arg Asn Leu Ser Arg Leu Arg Tyr Leu Gly  
 305 310 315 320

Val Thr Leu Ser Pro Arg Leu Ser Ala Leu Pro Gln Gly Ala Phe Gln  
 325 330 335

Gly Leu Gly Glu Leu Gln Val Leu Ala Leu His Ser Asn Gly Leu Thr  
 340 345 350

Ala Leu Pro Asp Gly Leu Leu Arg Gly Leu Gly Lys Leu Arg Gln Val  
 355 360 365

Ser Leu Arg Arg Asn Arg Leu Arg Ala Leu Pro Arg Ala Leu Phe Arg  
 370 375 380

Asn Leu Ser Ser Leu Glu Ser Val Gln Leu Asp His Asn Gln Leu Glu  
 385 390 395 400

Thr Leu Pro Gly Asp Val Phe Gly Ala Leu Pro Arg Leu Thr Glu Val  
 405 410 415

- 75 -

Leu Leu Gly His Asn Ser Trp Arg Cys Asp Cys Gly Leu Gly Pro Phe  
420 425 430

Leu Gly Trp Leu Arg Gln His Leu Gly Leu Val Gly Gly Glu Glu Pro  
435 440 445

Pro Arg Cys Ala Gly Pro Gly Ala His Ala Gly Leu Pro Leu Trp Ala  
450 455 460

Leu Pro Gly Gly Asp Ala Glu Cys Pro Gly Pro Arg Gly Pro Pro Pro  
465 470 475 480

Arg Pro Ala Ala Asp Ser Ser Ser Glu Ala Pro Val His Pro Ala Leu  
485 490 495

Ala Pro Asn Ser Ser Glu Pro Trp Val Trp Ala Gln Pro Val Thr Thr  
500 505 510

Gly Lys Gly Gln Asp His Ser Pro Phe Trp Gly Phe Tyr Phe Leu Leu  
515 520 525

Leu Ala Val Gln Ala Met Ile Thr Val Ile Ile Val Phe Ala Met Ile  
530 535 540

Lys Ile Gly Gln Leu Phe Arg Lys Leu Ile Arg Glu Arg Ala Leu Gly  
545 550 555 560

&lt;210&gt; 62

&lt;211&gt; 605

&lt;212&gt; PRT

&lt;213&gt; Papio hamadryas

&lt;400&gt; 62

Met Ala Leu Arg Lys Gly Gly Leu Ala Leu Ala Leu Leu Leu Leu Ser  
1 5 10 15

Trp Val Ala Leu Gly Pro Arg Ser Leu Glu Gly Ala Glu Pro Gly Thr  
20 25 30

Pro Gly Glu Ala Glu Gly Pro Ala Cys Pro Ala Thr Cys Ala Cys Ser  
35 40 45

Tyr Asp Asp Glu Val Asn Glu Leu Ser Val Phe Cys Ser Ser Arg Asn  
50 55 60

Leu Thr Arg Leu Pro Asp Gly Ile Pro Gly Gly Thr Gln Ala Leu Trp  
65 70 75 80

Leu Asp Ser Asn Asn Leu Ser Ser Ile Pro Pro Ala Ala Phe Arg Asn  
85 90 95

Leu Ser Ser Leu Ala Phe Leu Asn Leu Gln Gly Gly Gln Leu Gly Ser  
100 105 110

Leu Glu Pro Gln Ala Leu Leu Gly Leu Glu Asn Leu Cys His Leu His  
115 120 125

- 76 -

Leu	Glu	Arg	Asn	Gln	Leu	Arg	Ser	Leu	Ala	Val	Gly	Thr	Phe	Ala	Tyr	130	135	140	
Thr	Pro	Ala	Leu	Ala	Leu	Leu	Gly	Leu	Ser	Asn	Asn	Arg	Leu	Ser	Arg	145	150	155	160
Leu	Glu	Asp	Gly	Leu	Phe	Glu	Gly	Leu	Gly	Asn	Leu	Trp	Asp	Leu	Asn	165	170	175	
Leu	Gly	Trp	Asn	Ser	Leu	Ala	Val	Leu	Pro	Asp	Ala	Ala	Phe	Arg	Gly	180	185	190	
Leu	Gly	Gly	Leu	Arg	Glu	Leu	Val	Leu	Ala	Gly	Asn	Arg	Leu	Ala	Tyr	195	200	205	
Leu	Gln	Pro	Ala	Leu	Phe	Ser	Gly	Leu	Ala	Glu	Leu	Arg	Glu	Leu	Asp	210	215	220	
Leu	Ser	Arg	Asn	Ala	Leu	Arg	Ala	Ile	Lys	Ala	Asn	Val	Phe	Ala	Gln	225	230	235	240
Leu	Pro	Arg	Leu	Gln	Lys	Leu	Tyr	Leu	Asp	Arg	Asn	Leu	Ile	Ala	Ala	245	250	255	
Val	Ala	Pro	Gly	Ala	Phe	Leu	Gly	Leu	Lys	Ala	Leu	Arg	Trp	Leu	Asp	260	265	270	
Leu	Ser	His	Asn	Arg	Val	Ala	Gly	Leu	Leu	Glu	Asp	Thr	Phe	Pro	Gly	275	280	285	
Leu	Leu	Gly	Leu	Arg	Val	Leu	Arg	Leu	Ser	His	Asn	Ala	Ile	Ala	Ser	290	295	300	
Leu	Arg	Pro	Arg	Thr	Phe	Glu	Asp	Leu	His	Phe	Leu	Glu	Glu	Leu	Gln	305	310	315	320
Leu	Gly	His	Asn	Arg	Ile	Arg	Gln	Leu	Ala	Glu	Arg	Ser	Phe	Glu	Gly	325	330	335	
Leu	Gly	Gln	Leu	Glu	Val	Leu	Thr	Leu	Asp	His	Asn	Gln	Leu	Gln	Glu	340	345	350	
Val	Lys	Val	Gly	Ala	Phe	Leu	Gly	Leu	Thr	Asn	Val	Ala	Val	Met	Asn	355	360	365	
Leu	Ser	Gly	Asn	Cys	Leu	Arg	Asn	Leu	Pro	Glu	Gln	Val	Phe	Arg	Gly	370	375	380	
Leu	Gly	Lys	Leu	His	Ser	Leu	His	Leu	Glu	Gly	Ser	Cys	Leu	Gly	Arg	385	390	395	400
Ile	Arg	Pro	His	Thr	Phe	Ala	Gly	Leu	Ser	Gly	Leu	Arg	Arg	Leu	Phe	405	410	415	
Leu	Lys	Asp	Asn	Gly	Leu	Val	Gly	Ile	Glu	Glu	Gln	Ser	Leu	Trp	Gly	420	425	430	
Leu	Ala	Glu	Leu	Leu	Glu	Leu	Asp	Leu	Thr	Ser	Asn	Gln	Leu	Thr	His	435	440	445	



- 78 -

Xaa Xaa Xaa Xaa Xaa Xaa  
20

<210> 64  
<211> 46  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Xaas at positions 2-7, 9-15, 17-28 and 32-45, if  
present, may be any amino acid

<220>  
<223> Xaa at position 30 may be any amino acid

<220>  
<223> Description of Artificial Sequence: Consensus  
sequence

<400> 64  
Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys  
1 5 10 15  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Cys Xaa  
20 25 30  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys  
35 40 45

<210> 65  
<211> 38  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Xaas at positions 2-5, 7-11, 13-18, 24 and 26-33  
may be any amino acid

<220>  
<223> Xaas at positions 19-22 and 24-37, if present, may  
be any amino acid

<220>  
<223> Description of Artificial Sequence: Consensus  
sequence

<400> 65  
Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa  
1 5 10 15  
Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30  
Xaa Xaa Xaa Xaa Xaa Cys  
35

- 79 -

<210> 66  
 <211> 73  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Consensus  
 sequence

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 Pro Ser Pro Pro Arg Asn Leu Arg Val Thr Asp Ile Thr Pro Thr Ser  
 1 5 10 15  
 Ile Thr Val Ser Trp Thr Pro Pro Glu Gly Asn Gly Pro Ile Thr Gly  
 20 25 30  
 Tyr Arg Ile Gln Tyr Arg Trp Pro Val Asn Asp Asn Glu Trp Asn Glu  
 35 40 45  
 Phe Asn Val Pro Arg Thr Thr Asn Ser Tyr Thr Ile Thr Asn Leu Arg  
 50 55 60  
 Pro Gly Thr Glu Tyr Glu Phe Arg Val  
 65 70

<210> 67  
 <211> 2815  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (197)..(2215)

<400> 67  
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 acgggacgca gcagcctctg gatcccgga ccccgacac ctcaggacog gccagaggtg 120  
 aaggactgag gcccactga ggccttggac cgcaccgcct ggctccttca gccgcagtcg 180  
 tctcctggga cagaag atg cac tcc agg agc tgc ctg cca cct ctc ctg ttg 232  
 Met His Ser Arg Ser Cys Leu Pro Pro Leu Leu Leu  
 1 5 10  
 ttg ctt ctg gtg ctc ctg ggg tct gga gta cag ggt tgc cca tca ggc 280  
 Leu Leu Leu Val Leu Leu Gly Ser Gly Val Gln Gly Cys Pro Ser Gly  
 15 20 25  
 tgc cag tgc aac cag cca cag aca gtc ttc tgc act gcc cgt cag gga 328  
 Cys Gln Cys Asn Gln Pro Gln Thr Val Phe Cys Thr Ala Arg Gln Gly  
 30 35 40  
 acc aca gtg ccc cga gac gtg cca cct gac aca gtg ggc ctg tac atc 376  
 Thr Thr Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Ile  
 45 50 55 60

- 80 -

ttt gag aac ggc atc acg aca ctt gat gtg ggc tgt ttt gct ggc ctt	424
Phe Glu Asn Gly Ile Thr Thr Leu Asp Val Gly Cys Phe Ala Gly Leu	
65 70 75	
ccg ggc ctg cag ctt ctg gac ttg tca cag aac cag atc act agc ctg	472
Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Thr Ser Leu	
80 85 90	
ccc ggg ggc atc ttt cag cca ctt gtt aac ctc agt aac ctg gac ctg	520
Pro Gly Gly Ile Phe Gln Pro Leu Val Asn Leu Ser Asn Leu Asp Leu	
95 100 105	
act gcc aac aaa ctg cac gag atc tcc aac gag acc ttc cgt ggc ctg	568
Thr Ala Asn Lys Leu His Glu Ile Ser Asn Glu Thr Phe Arg Gly Leu	
110 115 120	
cgg cgc ctg gag cgc ctc tac ctg ggc aag aac cga att cgc cac atc	616
Arg Arg Leu Glu Arg Leu Tyr Leu Gly Lys Asn Arg Ile Arg His Ile	
125 130 135 140	
caa ccg ggt gcc ttc gac gcg ctt gat cgc ctc ctg gag ctc aag ctg	664
Gln Pro Gly Ala Phe Asp Ala Leu Asp Arg Leu Leu Glu Leu Lys Leu	
145 150 155	
cca gac aat gag ctt cgg gtg ttg ccc cca ttg cac ttg ccc cgc ctg	712
Pro Asp Asn Glu Leu Arg Val Leu Pro Pro Leu His Leu Pro Arg Leu	
160 165 170	
ctg ctg ctt gac ctc agc cac aac agc atc cca gcc ctg gaa gcc gga	760
Leu Leu Leu Asp Leu Ser His Asn Ser Ile Pro Ala Leu Glu Ala Gly	
175 180 185	
ata ctg gat acc gcc aat gta gag gca ttg agg ttg gct ggc cta ggg	808
Ile Leu Asp Thr Ala Asn Val Glu Ala Leu Arg Leu Ala Gly Leu Gly	
190 195 200	
ctg cgg cag ctg gat gag ggg ctt ttt ggc cgc ctt ctc aac ctc cat	856
Leu Arg Gln Leu Asp Glu Gly Leu Phe Gly Arg Leu Leu Asn Leu His	
205 210 215 220	
gac ttg gat gtt tct gac aac cag ttg gag cat atg cca tct gtg att	904
Asp Leu Asp Val Ser Asp Asn Gln Leu Glu His Met Pro Ser Val Ile	
225 230 235	
caa ggc ctg cgt ggc ctg aca cgc ctg cgg ctg gct ggc aac acc cgt	952
Gln Gly Leu Arg Gly Leu Thr Arg Leu Arg Leu Ala Gly Asn Thr Arg	
240 245 250	
att gcc cag ata cgg ccc gag gac ctc gct ggt ctg act gcc cta cag	1000
Ile Ala Gln Ile Arg Pro Glu Asp Leu Ala Gly Leu Thr Ala Leu Gln	
255 260 265	
gaa ttg gat gtg agc aac cta agc ctg cag gcc ctg ccc agt gac ctc	1048
Glu Leu Asp Val Ser Asn Leu Ser Leu Gln Ala Leu Pro Ser Asp Leu	
270 275 280	
tcg agt ctc ttt ccc cgc ctg cgc ctc tta gca gct gcc agg aac ccc	1096
Ser Ser Leu Phe Pro Arg Leu Arg Leu Leu Ala Ala Arg Asn Pro	
285 290 295 300	

- 81 -

ttc aac tgc ttg tgc ccc ttg agc tgg ttt ggt cct tgg gtg cgt gag	1144
Phe Asn Cys Leu Cys Pro Leu Ser Trp Phe Gly Pro Trp Val Arg Glu	
305 310 315	
aac cat gtt gtg ttg gcc agc cct gag gag acg cgt tgt cac ttt cca	1192
Asn His Val Val Leu Ala Ser Pro Glu Glu Thr Arg Cys His Phe Pro	
320 325 330	
ccc aag aat gct ggc cga ctg ctc ctg gat ctg gat tat gca gat ttt	1240
Pro Lys Asn Ala Gly Arg Leu Leu Asp Leu Asp Tyr Ala Asp Phe	
335 340 345	
ggc tgc cca gtc acc act acc acg gcc aca gta cct act ata agg tct	1288
Gly Cys Pro Val Thr Thr Thr Thr Ala Thr Val Pro Thr Ile Arg Ser	
350 355 360	
act atc agg gaa ccc aca ctt tca act tct agc caa gct ccc acc tgg	1336
Thr Ile Arg Glu Pro Thr Leu Ser Thr Ser Ser Gln Ala Pro Thr Trp	
365 370 375 380	
ccc agc ctc aca gag cca act acc cag gcc tcc acc gta cta tcg act	1384
Pro Ser Leu Thr Glu Pro Thr Thr Gln Ala Ser Thr Val Leu Ser Thr	
385 390 395	
gcc cca cca acc atg agg cca gct cct cag ccc cag gac tgt cca gca	1432
Ala Pro Pro Thr Met Arg Pro Ala Pro Gln Pro Gln Asp Cys Pro Ala	
400 405 410	
tcc atc tgc ctg aat ggt ggt agc tgc cgt ttg gga gca aga cac cac	1480
Ser Ile Cys Leu Asn Gly Gly Ser Cys Arg Leu Gly Ala Arg His His	
415 420 425	
tgg gag tgc cta tgc cct gag ggc ttc att ggc ctg tac tgt gag agt	1528
Trp Glu Cys Leu Cys Pro Glu Gly Phe Ile Gly Leu Tyr Cys Glu Ser	
430 435 440	
cca gtg gag caa ggg atg aag ccc agc tcc ata cca gac act cca agg	1576
Pro Val Glu Gln Gly Met Lys Pro Ser Ser Ile Pro Asp Thr Pro Arg	
445 450 455 460	
ccc cct cca ctg ctg cct ctc agc att gag ccg gtg agc ccc acc tcc	1624
Pro Pro Pro Leu Leu Pro Leu Ser Ile Glu Pro Val Ser Pro Thr Ser	
465 470 475	
ttg cgt gtg aag ctg cag cgc tac ttg cag ggt aac act gtg cag cta	1672
Leu Arg Val Lys Leu Gln Arg Tyr Leu Gln Gly Asn Thr Val Gln Leu	
480 485 490	
cgg agc ctc cgg ctc acc tat cgc aac ctg tct ggc cct gac aaa cga	1720
Arg Ser Leu Arg Leu Thr Tyr Arg Asn Leu Ser Gly Pro Asp Lys Arg	
495 500 505	
ctg gtg aca tta cgg ctg cct gct tca ctt gca gag tat aca gtc acc	1768
Leu Val Thr Leu Arg Leu Pro Ala Ser Leu Ala Glu Tyr Thr Val Thr	
510 515 520	
cag ctg cga ccc aat gcc acc tat tct atc tgt gtc aca ccc ttg gga	1816
Gln Leu Arg Pro Asn Ala Thr Tyr Ser Ile Cys Val Thr Pro Leu Gly	
525 530 535 540	

- 82 -

gct gga cgg aca cct gaa ggt gag gag gcc tgt ggg gag gcc aac act 1864  
 Ala Gly Arg Thr Pro Glu Gly Glu Glu Ala Cys Gly Glu Ala Asn Thr  
 545 550 555

tcc cag gca gtc cgc tct aac cat gcc cca gtt acc cag gcc cgt gag 1912  
 Ser Gln Ala Val Arg Ser Asn His Ala Pro Val Thr Gln Ala Arg Glu  
 560 565 570

ggc aac ctg cca ctc ctc att gcg cct gcc ctg gct gct gta ctt ctg 1960  
 Gly Asn Leu Pro Leu Leu Ile Ala Pro Ala Leu Ala Ala Val Leu Leu  
 575 580 585

gct gtg tta gcc gct gca ggg gca gcc tac tgt gtg cgg cgg gca cgg 2008  
 Ala Val Leu Ala Ala Ala Gly Ala Ala Tyr Cys Val Arg Arg Ala Arg  
 590 595 600

gca act tct aca gct cag gac aaa ggg cag gtg ggg cca ggg act gga 2056  
 Ala Thr Ser Thr Ala Gln Asp Lys Gly Gln Val Gly Pro Gly Thr Gly  
 605 610 615 620

ccc ctg gaa cta gag ggg gtg aaa gcc cct ttg gag cca ggc tcc aag 2104  
 Pro Leu Glu Leu Glu Gly Val Lys Ala Pro Leu Glu Pro Gly Ser Lys  
 625 630 635

gca aca gag gga ggt ggg gag gct ttg tca ggt ggt cct gaa tgt gag 2152  
 Ala Thr Glu Gly Gly Gly Glu Ala Leu Ser Gly Gly Pro Glu Cys Glu  
 640 645 650

gtg cct ctt atg ggc tac cca ggg ccc agc ctt cag ggg gtc ctc cct 2200  
 Val Pro Leu Met Gly Tyr Pro Gly Pro Ser Leu Gln Gly Val Leu Pro  
 655 660 665

gct aag cac tac att tagactggtg agaaagagca gccagggggt caggctttca 2255  
 Ala Lys His Tyr Ile  
 670

gtcaccaccc tccctgtgcc acagaaggaa gttctcagta tacaccacag tgcacgtgca 2315  
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 aaaaaaaaaa gggcggccgc 2815

- 83 -

&lt;210&gt; 68

&lt;211&gt; 673

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 68

```

Met His Ser Arg Ser Cys Leu Pro Pro Leu Leu Leu Leu Leu Val
 1           5           10           15

Leu Leu Gly Ser Gly Val Gln Gly Cys Pro Ser Gly Cys Gln Cys Asn
          20           25           30

Gln Pro Gln Thr Val Phe Cys Thr Ala Arg Gln Gly Thr Thr Val Pro
          35           40           45

Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Ile Phe Glu Asn Gly
          50           55           60

Ile Thr Thr Leu Asp Val Gly Cys Phe Ala Gly Leu Pro Gly Leu Gln
          65           70           75           80

Leu Leu Asp Leu Ser Gln Asn Gln Ile Thr Ser Leu Pro Gly Gly Ile
          85           90           95

Phe Gln Pro Leu Val Asn Leu Ser Asn Leu Asp Leu Thr Ala Asn Lys
          100          105          110

Leu His Glu Ile Ser Asn Glu Thr Phe Arg Gly Leu Arg Arg Leu Glu
          115          120          125

Arg Leu Tyr Leu Gly Lys Asn Arg Ile Arg His Ile Gln Pro Gly Ala
          130          135          140

Phe Asp Ala Leu Asp Arg Leu Leu Glu Leu Lys Leu Pro Asp Asn Glu
          145          150          155          160

Leu Arg Val Leu Pro Pro Leu His Leu Pro Arg Leu Leu Leu Leu Asp
          165          170          175

Leu Ser His Asn Ser Ile Pro Ala Leu Glu Ala Gly Ile Leu Asp Thr
          180          185          190

Ala Asn Val Glu Ala Leu Arg Leu Ala Gly Leu Gly Leu Arg Gln Leu
          195          200          205

Asp Glu Gly Leu Phe Gly Arg Leu Leu Asn Leu His Asp Leu Asp Val
          210          215          220

Ser Asp Asn Gln Leu Glu His Met Pro Ser Val Ile Gln Gly Leu Arg
          225          230          235          240

Gly Leu Thr Arg Leu Arg Leu Ala Gly Asn Thr Arg Ile Ala Gln Ile
          245          250          255

Arg Pro Glu Asp Leu Ala Gly Leu Thr Ala Leu Gln Glu Leu Asp Val
          260          265          270

Ser Asn Leu Ser Leu Gln Ala Leu Pro Ser Asp Leu Ser Ser Leu Phe
          275          280          285

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- 84 -

Pro	Arg	Leu	Arg	Leu	Leu	Ala	Ala	Ala	Arg	Asn	Pro	Phe	Asn	Cys	Leu
290						295					300				
Cys	Pro	Leu	Ser	Trp	Phe	Gly	Pro	Trp	Val	Arg	Glu	Asn	His	Val	Val
305					310					315					320
Leu	Ala	Ser	Pro	Glu	Glu	Thr	Arg	Cys	His	Phe	Pro	Pro	Lys	Asn	Ala
				325					330					335	
Gly	Arg	Leu	Leu	Leu	Asp	Leu	Asp	Tyr	Ala	Asp	Phe	Gly	Cys	Pro	Val
			340					345					350		
Thr	Thr	Thr	Thr	Ala	Thr	Val	Pro	Thr	Ile	Arg	Ser	Thr	Ile	Arg	Glu
		355					360					365			
Pro	Thr	Leu	Ser	Thr	Ser	Ser	Gln	Ala	Pro	Thr	Trp	Pro	Ser	Leu	Thr
	370					375					380				
Glu	Pro	Thr	Thr	Gln	Ala	Ser	Thr	Val	Leu	Ser	Thr	Ala	Pro	Pro	Thr
385				390						395					400
Met	Arg	Pro	Ala	Pro	Gln	Pro	Gln	Asp	Cys	Pro	Ala	Ser	Ile	Cys	Leu
				405					410					415	
Asn	Gly	Gly	Ser	Cys	Arg	Leu	Gly	Ala	Arg	His	His	Trp	Glu	Cys	Leu
			420					425					430		
Cys	Pro	Glu	Gly	Phe	Ile	Gly	Leu	Tyr	Cys	Glu	Ser	Pro	Val	Glu	Gln
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Gly	Met	Lys	Pro	Ser	Ser	Ile	Pro	Asp	Thr	Pro	Arg	Pro	Pro	Pro	Leu
	450					455					460				
Leu	Pro	Leu	Ser	Ile	Glu	Pro	Val	Ser	Pro	Thr	Ser	Leu	Arg	Val	Lys
465					470					475					480
Leu	Gln	Arg	Tyr	Leu	Gln	Gly	Asn	Thr	Val	Gln	Leu	Arg	Ser	Leu	Arg
				485					490					495	
Leu	Thr	Tyr	Arg	Asn	Leu	Ser	Gly	Pro	Asp	Lys	Arg	Leu	Val	Thr	Leu
			500					505					510		
Arg	Leu	Pro	Ala	Ser	Leu	Ala	Glu	Tyr	Thr	Val	Thr	Gln	Leu	Arg	Pro
		515					520					525			
Asn	Ala	Thr	Tyr	Ser	Ile	Cys	Val	Thr	Pro	Leu	Gly	Ala	Gly	Arg	Thr
		530				535					540				
Pro	Glu	Gly	Glu	Glu	Ala	Cys	Gly	Glu	Ala	Asn	Thr	Ser	Gln	Ala	Val
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Arg	Ser	Asn	His	Ala	Pro	Val	Thr	Gln	Ala	Arg	Glu	Gly	Asn	Leu	Pro
				565					570					575	
Leu	Leu	Ile	Ala	Pro	Ala	Leu	Ala	Ala	Val	Leu	Leu	Ala	Val	Leu	Ala
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Ala	Ala	Gly	Ala	Ala	Tyr	Cys	Val	Arg	Arg	Ala	Arg	Ala	Thr	Ser	Thr
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- 85 -

Ala Gln Asp Lys Gly Gln Val Gly Pro Gly Thr Gly Pro Leu Glu Leu  
610 615 620

Glu Gly Val Lys Ala Pro Leu Glu Pro Gly Ser Lys Ala Thr Glu Gly  
625 630 635 640

Gly Gly Glu Ala Leu Ser Gly Gly Pro Glu Cys Glu Val Pro Leu Met  
645 650 655

Gly Tyr Pro Gly Pro Ser Leu Gln Gly Val Leu Pro Ala Lys His Tyr  
660 665 670

Ile

&lt;210&gt; 69

&lt;211&gt; 2022

&lt;212&gt; DNA

&lt;213&gt; Mus musculus

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(2019)

&lt;400&gt; 69

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1 5 10 15

ctc ctg ggg tct gga gta cag ggt tgc cca tca ggc tgc cag tgc aac 96  
Leu Leu Gly Ser Gly Val Gln Gly Cys Pro Ser Gly Cys Gln Cys Asn  
20 25 30

cag cca cag aca gtc ttc tgc act gcc cgt cag gga acc aca gtg ccc 144  
Gln Pro Gln Thr Val Phe Cys Thr Ala Arg Gln Gly Thr Thr Val Pro  
35 40 45

cga gac gtg cca cct gac aca gtg ggc ctg tac atc ttt gag aac ggc 192  
Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Ile Phe Glu Asn Gly  
50 55 60

atc acg aca ctt gat gtg ggc tgt ttt gct ggc ctt ccg ggc ctg cag 240  
Ile Thr Thr Leu Asp Val Gly Cys Phe Ala Gly Leu Pro Gly Leu Gln  
65 70 75 80

ctt ctg gac ttg tca cag aac cag atc act agc ctg ccc ggg ggc atc 288  
Leu Leu Asp Leu Ser Gln Asn Gln Ile Thr Ser Leu Pro Gly Gly Ile  
85 90 95

ttt cag cca ctt gtt aac ctc agt aac ctg gac ctg act gcc aac aaa 336  
Phe Gln Pro Leu Val Asn Leu Ser Asn Leu Asp Leu Thr Ala Asn Lys  
100 105 110

ctg cac gag atc tcc aac gag acc ttc cgt ggc ctg cgg cgc ctg gag 384  
Leu His Glu Ile Ser Asn Glu Thr Phe Arg Gly Leu Arg Arg Leu Glu  
115 120 125

- 86 -

cgc ctc tac ctg ggc aag aac cga att cgc cac atc caa ccg ggt gcc	432
Arg Leu Tyr Leu Gly Lys Asn Arg Ile Arg His Ile Gln Pro Gly Ala	
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ttc gac gcg ctt gat cgc ctc ctg gag ctc aag ctg cca gac aat gag	480
Phe Asp Ala Leu Asp Arg Leu Leu Glu Leu Lys Leu Pro Asp Asn Glu	
145 150 155 160	
ctt cgg gtg ttg ccc cca ttg cac ttg ccc cgc ctg ctg ctg ctt gac	528
Leu Arg Val Leu Pro Pro Leu His Leu Pro Arg Leu Leu Leu Leu Asp	
165 170 175	
ctc agc cac aac agc atc cca gcc ctg gaa gcc gga ata ctg gat acc	576
Leu Ser His Asn Ser Ile Pro Ala Leu Glu Ala Gly Ile Leu Asp Thr	
180 185 190	
gcc aat gta gag gca ttg agg ttg gct ggc cta ggg ctg cgg cag ctg	624
Ala Asn Val Glu Ala Leu Arg Leu Ala Gly Leu Gly Leu Arg Gln Leu	
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gat gag ggg ctt ttt ggc cgc ctt ctc aac ctc cat gac ttg gat gtt	672
Asp Glu Gly Leu Phe Gly Arg Leu Leu Asn Leu His Asp Leu Asp Val	
210 215 220	
tct gac aac cag ttg gag cat atg cca tct gtg att caa ggc ctg cgt	720
Ser Asp Asn Gln Leu Glu His Met Pro Ser Val Ile Gln Gly Leu Arg	
225 230 235 240	
ggc ctg aca cgc ctg cgg ctg gct ggc aac acc cgt att gcc cag ata	768
Gly Leu Thr Arg Leu Arg Leu Ala Gly Asn Thr Arg Ile Ala Gln Ile	
245 250 255	
cgg ccc gag gac ctc gct ggt ctg act gcc cta cag gaa ttg gat gtg	816
Arg Pro Glu Asp Leu Ala Gly Leu Thr Ala Leu Gln Glu Leu Asp Val	
260 265 270	
agc aac cta agc ctg cag gcc ctg ccc agt gac ctc tcg agt ctc ttt	864
Ser Asn Leu Ser Leu Gln Ala Leu Pro Ser Asp Leu Ser Ser Leu Phe	
275 280 285	
ccc cgc ctg cgc ctc tta gca gct gcc agg aac ccc ttc aac tgc ttg	912
Pro Arg Leu Arg Leu Leu Ala Ala Ala Arg Asn Pro Phe Asn Cys Leu	
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Cys Pro Leu Ser Trp Phe Gly Pro Trp Val Arg Glu Asn His Val Val	
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ttg gcc agc cct gag gag acg cgt tgt cac ttt cca ccc aag aat gct	1008
Leu Ala Ser Pro Glu Glu Thr Arg Cys His Phe Pro Pro Lys Asn Ala	
325 330 335	
ggc cga ctg ctc ctg gat ctg gat tat gca gat ttt ggc tgc cca gtc	1056
Gly Arg Leu Leu Leu Asp Leu Asp Tyr Ala Asp Phe Gly Cys Pro Val	
340 345 350	
acc act acc acg gcc aca gta cct act ata agg tct act atc agg gaa	1104
Thr Thr Thr Thr Ala Thr Val Pro Thr Ile Arg Ser Thr Ile Arg Glu	
355 360 365	

- 87 -

ccc	aca	ctt	tca	act	tct	agc	caa	gct	ccc	acc	tgg	ccc	agc	ctc	aca	1152
Pro	Thr	Leu	Ser	Thr	Ser	Ser	Gln	Ala	Pro	Thr	Trp	Pro	Ser	Leu	Thr	
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gag	cca	act	acc	cag	gcc	tcc	acc	gta	cta	tcg	act	gcc	cca	cca	acc	1200
Glu	Pro	Thr	Thr	Gln	Ala	Ser	Thr	Val	Leu	Ser	Thr	Ala	Pro	Pro	Thr	
385					390					395					400	
atg	agg	cca	gct	cct	cag	ccc	cag	gac	tgt	cca	gca	tcc	atc	tgc	ctg	1248
Met	Arg	Pro	Ala	Pro	Gln	Pro	Gln	Asp	Cys	Pro	Ala	Ser	Ile	Cys	Leu	
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aat	ggg	ggg	agc	tgc	cgt	ttg	gga	gca	aga	cac	cac	tgg	gag	tgc	cta	1296
Asn	Gly	Gly	Ser	Cys	Arg	Leu	Gly	Ala	Arg	His	His	Trp	Glu	Cys	Leu	
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tgc	cct	gag	ggc	ttc	att	ggc	ctg	tac	tgt	gag	agt	cca	gtg	gag	caa	1344
Cys	Pro	Glu	Gly	Phe	Ile	Gly	Leu	Tyr	Cys	Glu	Ser	Pro	Val	Glu	Gln	
		435					440					445				
ggg	atg	aag	ccc	agc	tcc	ata	cca	gac	act	cca	agg	ccc	cct	cca	ctg	1392
Gly	Met	Lys	Pro	Ser	Ser	Ile	Pro	Asp	Thr	Pro	Arg	Pro	Pro	Pro	Leu	
	450					455					460					
ctg	cct	ctc	agc	att	gag	ccg	gtg	agc	ccc	acc	tcc	ttg	cgt	gtg	aag	1440
Leu	Pro	Leu	Ser	Ile	Glu	Pro	Val	Ser	Pro	Thr	Ser	Leu	Arg	Val	Lys	
465					470					475					480	
ctg	cag	cgc	tac	ttg	cag	ggg	aac	act	gtg	cag	cta	cgg	agc	ctc	cgg	1488
Leu	Gln	Arg	Tyr	Leu	Gln	Gly	Asn	Thr	Val	Gln	Leu	Arg	Ser	Leu	Arg	
				485					490					495		
ctc	acc	tat	cgc	aac	ctg	tct	ggc	cct	gac	aaa	cga	ctg	gtg	aca	tta	1536
Leu	Thr	Tyr	Arg	Asn	Leu	Ser	Gly	Pro	Asp	Lys	Arg	Leu	Val	Thr	Leu	
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cgg	ctg	cct	gct	tca	ctt	gca	gag	tat	aca	gtc	acc	cag	ctg	cga	ccc	1584
Arg	Leu	Pro	Ala	Ser	Leu	Ala	Glu	Tyr	Thr	Val	Thr	Gln	Leu	Arg	Pro	
		515					520					525				
aat	gcc	acc	tat	tct	atc	tgt	gtc	aca	ccc	ttg	gga	gct	gga	cgg	aca	1632
Asn	Ala	Thr	Tyr	Ser	Ile	Cys	Val	Thr	Pro	Leu	Gly	Ala	Gly	Arg	Thr	
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cct	gaa	ggg	gag	gag	gcc	tgt	ggg	gag	gcc	aac	act	tcc	cag	gca	gtc	1680
Pro	Glu	Gly	Glu	Glu	Ala	Cys	Gly	Glu	Ala	Asn	Thr	Ser	Gln	Ala	Val	
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cgc	tct	aac	cat	gcc	cca	gtt	acc	cag	gcc	cgt	gag	ggc	aac	ctg	cca	1728
Arg	Ser	Asn	His	Ala	Pro	Val	Thr	Gln	Ala	Arg	Glu	Gly	Asn	Leu	Pro	
				565					570					575		
ctc	ctc	att	gcg	cct	gcc	ctg	gct	gct	gta	ctt	ctg	gct	gtg	tta	gcc	1776
Leu	Leu	Ile	Ala	Pro	Ala	Leu	Ala	Ala	Val	Leu	Leu	Ala	Val	Leu	Ala	
			580					585					590			
gct	gca	ggg	gca	gcc	tac	tgt	gtg	cgg	cgg	gca	cgg	gca	act	tct	aca	1824
Ala	Ala	Gly	Ala	Ala	Tyr	Cys	Val	Arg	Arg	Ala	Arg	Ala	Thr	Ser	Thr	
		595					600					605				

- 88 -

gct cag gac aaa ggg cag gtg ggg cca ggg act gga ccc ctg gaa cta 1872  
 Ala Gln Asp Lys Gly Gln Val Gly Pro Gly Thr Gly Pro Leu Glu Leu  
 610 615 620

gag ggg gtg aaa gcc cct ttg gag cca ggc tcc aag gca aca gag gga 1920  
 Glu Gly Val Lys Ala Pro Leu Glu Pro Gly Ser Lys Ala Thr Glu Gly  
 625 630 635 640

ggt ggg gag gct ttg tca ggt ggt cct gaa tgt gag gtg cct ctt atg 1968  
 Gly Gly Glu Ala Leu Ser Gly Gly Pro Glu Cys Glu Val Pro Leu Met  
 645 650 655

ggc tac cca ggg ccc agc ctt cag ggg gtc ctc cct gct aag cac tac 2016  
 Gly Tyr Pro Gly Pro Ser Leu Gln Gly Val Leu Pro Ala Lys His Tyr  
 660 665 670

att tag 2022  
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<210> 70  
 <211> 2915  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (404)..(1294)

<400> 70  
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 cggagcgcgc cgcccgccgg tggcgcgcgc cagcatgccc cggcccgcgg gccgctccgc 180  
 cgccagccac ccccgcggcc ctggcgggcc tgcgctcggc ccggggggcg gggaaccgca 240  
 gccggagccg gaggcgggag cagcgagccg gagccccggg cgctcgaatg caggatgctc 300  
 gtgggtcccca gcatccttga gccaccagga gtgagggctg ctgctccctg agacctggct 360  
 ccaaggagga tgccacagcc gcctgccagc tccgggtctgc acc atg agt gat gag 415  
 Met Ser Asp Glu  
 1

cgg cgg ctg cct ggc agt gca gtg ggc tgg ctg gta tgt ggg ggc ctc 463  
 Arg Arg Leu Pro Gly Ser Ala Val Gly Trp Leu Val Cys Gly Gly Leu  
 5 10 15 20

tcc ctg ctg gcc aat gcc tgg ggc atc ctc agc gtt ggc gcc aag cag 511  
 Ser Leu Leu Ala Asn Ala Trp Gly Ile Leu Ser Val Gly Ala Lys Gln  
 25 30 35

aag aag tgg aag ccc ttg gag ttc ctg ctg tgt acg ctc gcg gcc acc 559  
 Lys Lys Trp Lys Pro Leu Glu Phe Leu Leu Cys Thr Leu Ala Ala Thr  
 40 45 50

- 89 -

cac atg cta aat gtg gcc gtg ccc atc gcc acc tac tcc gtg gtg cag	607
His Met Leu Asn Val Ala Val Pro Ile Ala Thr Tyr Ser Val Val Gln	
55 60 65	
ctg cgg cgg cag cgc ccc gac ttc gag tgg aat gag ggt ctc tgc aag	655
Leu Arg Arg Gln Arg Pro Asp Phe Glu Trp Asn Glu Gly Leu Cys Lys	
70 75 80	
gtc ttc gtg tcc acc ttc tac acc ctc acc ctg gcc acc tgt ttc tct	703
Val Phe Val Ser Thr Phe Tyr Thr Leu Thr Leu Ala Thr Cys Phe Ser	
85 90 95 100	
gtc acc tcc ctc tcc tac cac cgc atg tgg atg gtc tgc tgg cct gtc	751
Val Thr Ser Leu Ser Tyr His Arg Met Trp Met Val Cys Trp Pro Val	
105 110 115	
aac tac cgg ctg agc aat gcc aag aag cag gcg gtg cac aca gtc atg	799
Asn Tyr Arg Leu Ser Asn Ala Lys Lys Gln Ala Val His Thr Val Met	
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ggg atc tgg atg gtg tcc ttc atc ctg tcg gcc ctg cct gcc gtt ggc	847
Gly Ile Trp Met Val Ser Phe Ile Leu Ser Ala Leu Pro Ala Val Gly	
135 140 145	
tgg cac gac acc agc gag cgc ttc tac acc cat ggc tgc cgc ttc atc	895
Trp His Asp Thr Ser Glu Arg Phe Tyr Thr His Gly Cys Arg Phe Ile	
150 155 160	
gtg gct gag atc ggc ctg ggc ttt ggc gtc tgc ttc ctg ctg ctg gtg	943
Val Ala Glu Ile Gly Leu Gly Phe Gly Val Cys Phe Leu Leu Leu Val	
165 170 175 180	
ggc ggc agc gtg gcc atg ggc gtg atc tgc aca gcc atc gcc ctc ttc	991
Gly Gly Ser Val Ala Met Gly Val Ile Cys Thr Ala Ile Ala Leu Phe	
185 190 195	
cag acg ctg gcc gtg cag gtg ggg cgc cag gcc gac cac cgc gcc ttc	1039
Gln Thr Leu Ala Val Gln Val Gly Arg Gln Ala Asp His Arg Ala Phe	
200 205 210	
acc gtg ccc acc atc gtg gtg gag gac gcg cag ggc aag cgg cgc tcc	1087
Thr Val Pro Thr Ile Val Val Glu Asp Ala Gln Gly Lys Arg Arg Ser	
215 220 225	
tcc atc gat ggc tcg gag ccc gcc aaa acc tct ctg cag acc acg ggc	1135
Ser Ile Asp Gly Ser Glu Pro Ala Lys Thr Ser Leu Gln Thr Thr Gly	
230 235 240	
ctc gtg acc acc ata gtc ttc atc tac gac tgc ctc atg ggc ttc cct	1183
Leu Val Thr Thr Ile Val Phe Ile Tyr Asp Cys Leu Met Gly Phe Pro	
245 250 255 260	
gtg ctg gac tct acg ccc atc ccc gaa agg tct gca gtg aga cag gga	1231
Val Leu Asp Ser Thr Pro Ile Pro Glu Arg Ser Ala Val Arg Gln Gly	
265 270 275	
gag gac tgg ggc aaa gac cag cct gag ggg ttt cat cca agc agc agg	1279
Glu Asp Trp Gly Lys Asp Gln Pro Glu Gly Phe His Pro Ser Ser Arg	
280 285 290	

- 90 -

caa gac tgc ctt ccc tgagccattg caggacatga ggacatgagc tccagaatgg 1334  
 Gln Asp Cys Leu Pro  
 295

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- 91 -

&lt;210&gt; 71

&lt;211&gt; 297

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 71

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Cys	Gly	Gly	Leu	Ser	Leu	Leu	Ala	Asn	Ala	Trp	Gly	Ile	Leu	Ser	Val
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Gly	Ala	Lys	Gln	Lys	Lys	Trp	Lys	Pro	Leu	Glu	Phe	Leu	Leu	Cys	Thr
		35					40					45			
Leu	Ala	Ala	Thr	His	Met	Leu	Asn	Val	Ala	Val	Pro	Ile	Ala	Thr	Tyr
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Ser	Val	Val	Gln	Leu	Arg	Arg	Gln	Arg	Pro	Asp	Phe	Glu	Trp	Asn	Glu
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Gly	Leu	Cys	Lys	Val	Phe	Val	Ser	Thr	Phe	Tyr	Thr	Leu	Thr	Leu	Ala
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Thr	Cys	Phe	Ser	Val	Thr	Ser	Leu	Ser	Tyr	His	Arg	Met	Trp	Met	Val
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Cys	Trp	Pro	Val	Asn	Tyr	Arg	Leu	Ser	Asn	Ala	Lys	Lys	Gln	Ala	Val
		115					120					125			
His	Thr	Val	Met	Gly	Ile	Trp	Met	Val	Ser	Phe	Ile	Leu	Ser	Ala	Leu
	130					135					140				
Pro	Ala	Val	Gly	Trp	His	Asp	Thr	Ser	Glu	Arg	Phe	Tyr	Thr	His	Gly
145					150					155					160
Cys	Arg	Phe	Ile	Val	Ala	Glu	Ile	Gly	Leu	Gly	Phe	Gly	Val	Cys	Phe
				165					170					175	
Leu	Leu	Leu	Val	Gly	Gly	Ser	Val	Ala	Met	Gly	Val	Ile	Cys	Thr	Ala
			180					185					190		
Ile	Ala	Leu	Phe	Gln	Thr	Leu	Ala	Val	Gln	Val	Gly	Arg	Gln	Ala	Asp
	195					200						205			
His	Arg	Ala	Phe	Thr	Val	Pro	Thr	Ile	Val	Val	Glu	Asp	Ala	Gln	Gly
	210					215					220				
Lys	Arg	Arg	Ser	Ser	Ile	Asp	Gly	Ser	Glu	Pro	Ala	Lys	Thr	Ser	Leu
225					230					235					240
Gln	Thr	Thr	Gly	Leu	Val	Thr	Thr	Ile	Val	Phe	Ile	Tyr	Asp	Cys	Leu
			245						250					255	
Met	Gly	Phe	Pro	Val	Leu	Asp	Ser	Thr	Pro	Ile	Pro	Glu	Arg	Ser	Ala
			260					265					270		
Val	Arg	Gln	Gly	Glu	Asp	Trp	Gly	Lys	Asp	Gln	Pro	Glu	Gly	Phe	His
		275					280					285			

- 92 -

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 Cys Gly Gly Leu Ser Leu Leu Ala Asn Ala Trp Gly Ile Leu Ser Val  
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 ggc gcc aag cag aag aag tgg aag ccc ttg gag ttc ctg ctg tgt acg 144  
 Gly Ala Lys Gln Lys Lys Trp Lys Pro Leu Glu Phe Leu Leu Cys Thr  
 35 40 45  
 ctc gcg gcc acc cac atg cta aat gtg gcc gtg ccc atc gcc acc tac 192  
 Leu Ala Ala Thr His Met Leu Asn Val Ala Val Pro Ile Ala Thr Tyr  
 50 55 60  
 tcc gtg gtg cag ctg cgg cgg cag cgc ccc gac ttc gag tgg aat gag 240  
 Ser Val Val Gln Leu Arg Arg Gln Arg Pro Asp Phe Glu Trp Asn Glu  
 65 70 75 80  
 ggt ctc tgc aag gtc ttc gtg tcc acc ttc tac acc ctc acc ctg gcc 288  
 Gly Leu Cys Lys Val Phe Val Ser Thr Phe Tyr Thr Leu Thr Leu Ala  
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 acc tgt ttc tct gtc acc tcc ctc tcc tac cac cgc atg tgg atg gtc 336  
 Thr Cys Phe Ser Val Thr Ser Leu Ser Tyr His Arg Met Trp Met Val  
 100 105 110  
 tgc tgg cct gtc aac tac cgg ctg agc aat gcc aag aag cag gcg gtg 384  
 Cys Trp Pro Val Asn Tyr Arg Leu Ser Asn Ala Lys Lys Gln Ala Val  
 115 120 125  
 cac aca gtc atg ggt atc tgg atg gtg tcc ttc atc ctg tcg gcc ctg 432  
 His Thr Val Met Gly Ile Trp Met Val Ser Phe Ile Leu Ser Ala Leu  
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 Pro Ala Val Gly Trp His Asp Thr Ser Glu Arg Phe Tyr Thr His Gly  
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 Cys Arg Phe Ile Val Ala Glu Ile Gly Leu Gly Phe Gly Val Cys Phe  
 165 170 175

- 93 -

ctg ctg ctg gtg ggc ggc agc gtg gcc atg ggc gtg atc tgc aca gcc	576
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180 185 190	
atc gcc ctc ttc cag acg ctg gcc gtg cag gtg ggg cgc cag gcc gac	624
Ile Ala Leu Phe Gln Thr Leu Ala Val Gln Val Gly Arg Gln Ala Asp	
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His Arg Ala Phe Thr Val Pro Thr Ile Val Val Glu Asp Ala Gln Gly	
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aag cgg cgc tcc tcc atc gat ggc tcg gag ccc gcc aaa acc tct ctg	720
Lys Arg Arg Ser Ser Ile Asp Gly Ser Glu Pro Ala Lys Thr Ser Leu	
225 230 235 240	
cag acc acg ggc ctc gtg acc acc ata gtc ttc atc tac gac tgc ctc	768
Gln Thr Thr Gly Leu Val Thr Thr Ile Val Phe Ile Tyr Asp Cys Leu	
245 250 255	
atg ggc ttc cct gtg ctg gac tct acg ccc atc ccc gaa agg tct gca	816
Met Gly Phe Pro Val Leu Asp Ser Thr Pro Ile Pro Glu Arg Ser Ala	
260 265 270	
gtg aga cag gga gag gac tgg ggc aaa gac cag cct gag ggg ttt cat	864
Val Arg Gln Gly Glu Asp Trp Gly Lys Asp Gln Pro Glu Gly Phe His	
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 ccccgcgggc ctccggggcc tgcgctcggc cggggggcgc gggaaccgca gccggagccg 180  
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 tgccacagcc gctgcccagc tccggtctgc acc atg agt gat gag cgg cgg ctg 354  
 Met Ser Asp Glu Arg Arg Leu  
 1 5  
 cct ggc agt gca gtg ggc tgg ctg gta tgt ggg ggc ctc tcc ctg ctg 402  
 Pro Gly Ser Ala Val Gly Trp Leu Val Cys Gly Gly Leu Ser Leu Leu  
 10 15 20

- 94 -

gcc aat gcc tgg ggc atc ctc agc gtt ggc gcc aag cag aag aag tgg 450  
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 25 30 35

aag ccc ttg gag ttc ctg ctg tgt acg ctc gcg gcc acc cac atg cta 498  
 Lys Pro Leu Glu Phe Leu Leu Cys Thr Leu Ala Ala Thr His Met Leu  
 40 45 50 55

aat gtg gcc gtg ccc atc gcc acc tac tcc gtg gtg cag ctg cgg cgg 546  
 Asn Val Ala Val Pro Ile Ala Thr Tyr Ser Val Val Gln Leu Arg Arg  
 60 65 70

cag cgc ccc gac ttc gag tgg aat gag ggt ctc tgc aag gtc ttc gtg 594  
 Gln Arg Pro Asp Phe Glu Trp Asn Glu Gly Leu Cys Lys Val Phe Val  
 75 80 85

tcc acc ttc tac acc ctc acc ctg gcc acc tgt ttc tct gtc acc tcc 642  
 Ser Thr Phe Tyr Thr Leu Thr Leu Ala Thr Cys Phe Ser Val Thr Ser  
 90 95 100

ctc tcc tac cac cgc atg tgg atg gtc tgc tgg cct gtc aac tac cgg 690  
 Leu Ser Tyr His Arg Met Trp Met Val Cys Trp Pro Val Asn Tyr Arg  
 105 110 115

ctg agc aat gcc aag aag cag gcg gtg cac aca gtc atg ggt atc tgg 738  
 Leu Ser Asn Ala Lys Lys Gln Ala Val His Thr Val Met Gly Ile Trp  
 120 125 130 135

atg gtg tcc ttc atc ctg tgc gcc ctg cct gcc gtt ggc tgg cac gac 786  
 Met Val Ser Phe Ile Leu Ser Ala Leu Pro Ala Val Gly Trp His Asp  
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acc agc gag cgc ttc tac acc cat ggc tgc cgc ttc atc gtg gct gag 834  
 Thr Ser Glu Arg Phe Tyr Thr His Gly Cys Arg Phe Ile Val Ala Glu  
 155 160 165

atc ggc ctg ggc ttt ggc gtc tgc ttc ctg ctg ctg gtg ggc ggc agc 882  
 Ile Gly Leu Gly Phe Gly Val Cys Phe Leu Leu Leu Val Gly Gly Ser  
 170 175 180

gtg gcc atg ggc gtg atc tgc aca gcc atc gcc ctc ttc cag acg ctg 930  
 Val Ala Met Gly Val Ile Cys Thr Ala Ile Ala Leu Phe Gln Thr Leu  
 185 190 195

gcc gtg cag gtg ggg cgc cag gcc gac cac cgc gcc ttc acc gtg ccc 978  
 Ala Val Gln Val Gly Arg Gln Ala Asp His Arg Ala Phe Thr Val Pro  
 200 205 210 215

acc atc gtg gtg gag gac gcg cag gcc aag cgg cgc tcc tcc atc gat 1026  
 Thr Ile Val Val Glu Asp Ala Gln Gly Lys Arg Arg Ser Ser Ile Asp  
 220 225 230

ggc tgc gag ccc gcc aaa acc tct ctg cag acc acg ggc ctc gtg acc 1074  
 Gly Ser Glu Pro Ala Lys Thr Ser Leu Gln Thr Thr Gly Leu Val Thr  
 235 240 245

acc ata gtc ttc atc tac gac tgc ctc atg gcc ttc cct gtg ctg gtg 1122  
 Thr Ile Val Phe Ile Tyr Asp Cys Leu Met Gly Phe Pro Val Leu Val  
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- 95 -

gtg agc ttc agc agc ctg cgg gcc gac gcc tca gcg ccc tgg atg gca	1170
Val Ser Phe Ser Ser Leu Arg Ala Asp Ala Ser Ala Pro Trp Met Ala	
265 270 275	
ctc tgc gtg ctg tgg tgc tcc gtg gcc cag gcc ctg ctg ctg cct gtg	1218
Leu Cys Val Leu Trp Cys Ser Val Ala Gln Ala Leu Leu Leu Pro Val	
280 285 290 295	
ttc ctc tgg gcc tgc gac cgc tac cgg gct gac ctc aaa gct gtc cgg	1266
Phe Leu Trp Ala Cys Asp Arg Tyr Arg Ala Asp Leu Lys Ala Val Arg	
300 305 310	
gag aag tgc atg gcc ctc atg gcc aac gac gag gag tca gac gat gag	1314
Glu Lys Cys Met Ala Leu Met Ala Asn Asp Glu Glu Ser Asp Asp Glu	
315 320 325	
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Thr Ser Leu Glu Gly Gly Ile Ser Pro Asp Leu Val Leu Glu Arg Ser	
330 335 340	
ctg gac tat ggc tat gga ggt gat ttt gtg gcc cta gat agg atg gcc	1410
Leu Asp Tyr Gly Tyr Gly Gly Asp Phe Val Ala Leu Asp Arg Met Ala	
345 350 355	
aag tat gag atc tcc gcc ctg gag ggg ggc ctg ccc cag ctc tac cca	1458
Lys Tyr Glu Ile Ser Ala Leu Glu Gly Gly Leu Pro Gln Leu Tyr Pro	
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Leu Arg Pro Leu Gln Glu Asp Lys Met Gln Tyr Leu Gln Val Pro Pro	
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acg cgg cgc ttc tcc cac gac gat gcg gac gtg tgg gcc gcc gtc ccg	1554
Thr Arg Arg Phe Ser His Asp Asp Ala Asp Val Trp Ala Ala Val Pro	
395 400 405	
ctg ccc gcc ttc ctg ccg cgc tgg ggc tcc ggc gag gac ctg gcc gcc	1602
Leu Pro Ala Phe Leu Pro Arg Trp Gly Ser Gly Glu Asp Leu Ala Ala	
410 415 420	
ctg gcg cac ctg gtg ctg cct gcc ggg ccc gag cgg cgc cgc gcc agc	1650
Leu Ala His Leu Val Leu Pro Ala Gly Pro Glu Arg Arg Arg Ala Ser	
425 430 435	
ctc ctg gcc ttc gcg gag gac gca cca ccg tcc cgc gcg cgc cgc cgc	1698
Leu Leu Ala Phe Ala Glu Asp Ala Pro Pro Ser Arg Ala Arg Arg Arg	
440 445 450 455	
tcg gcc gag agc ctg ctg tcg ctg cgg acc tcg gcc ctg gat agc ggc	1746
Ser Ala Glu Ser Leu Leu Ser Leu Arg Thr Ser Ala Leu Asp Ser Gly	
460 465 470	
ccg cgg gga gcc cgc gac tcg ccc ccc ggc agc ccg cgc cgc cgc ccc	1794
Pro Arg Gly Ala Arg Asp Ser Pro Pro Gly Ser Pro Arg Arg Arg Pro	
475 480 485	
ggg ccc ggc ccc cgc tcc gcc tcg gcc tcg ctg ctg ccc gac gcc ttc	1842
Gly Pro Gly Pro Arg Ser Ala Ser Ala Ser Leu Leu Pro Asp Ala Phe	
490 495 500	

- 96 -

gcc ctg acc gcc ttc gag tgc gag cca cag gcc ctg cgc cgc ccg ccc 1890  
 Ala Leu Thr Ala Phe Glu Cys Glu Pro Gln Ala Leu Arg Arg Pro Pro  
 505 510 515

ggg ccc ttc ccc gct gcg ccc gcc gcc ccc gac ggc gca gat ccc gga 1938  
 Gly Pro Phe Pro Ala Ala Pro Ala Ala Pro Asp Gly Ala Asp Pro Gly  
 520 525 530 535

gag gcc ccg acg ccc cca agc agc gcc cag cgg agc cca ggg cca cgc 1986  
 Glu Ala Pro Thr Pro Pro Ser Ser Ala Gln Arg Ser Pro Gly Pro Arg  
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ccc tct gcg cac tct cac gcc ggc tct ctg cgc ccc ggc ctg agc gcg 2034  
 Pro Ser Ala His Ser His Ala Gly Ser Leu Arg Pro Gly Leu Ser Ala  
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tct tgg ggc gag ccc ggg ggg ctg cgc gcg gcg ggc ggc ggc ggc agc 2082  
 Ser Trp Gly Glu Pro Gly Gly Leu Arg Ala Ala Gly Gly Gly Gly Ser  
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acc agc agc ttc ctg agt tcc ccc tcc gag tcc tct ggc tac gcc acg 2130  
 Thr Ser Ser Phe Leu Ser Ser Pro Ser Glu Ser Ser Gly Tyr Ala Thr  
 585 590 595

ctg cac tct gac tct ctg ggc tcc gcg tcc taggaccgcc ggcgcctccc 2180  
 Leu His Ser Asp Ser Leu Gly Ser Ala Ser  
 600 605

caccgacgcc aggcaggcca ggccgctctc cggggccgca gcaccaaaga cgcgcctc 2240

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- 97 -

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&lt;211&gt; 609

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 74

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Cys Gly Gly Leu Ser Leu Leu Ala Asn Ala Trp Gly Ile Leu Ser Val
      20             25             30

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Gly Ala Lys Gln Lys Lys Trp Lys Pro Leu Glu Phe Leu Leu Cys Thr
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Leu Ala Ala Thr His Met Leu Asn Val Ala Val Pro Ile Ala Thr Tyr
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Ser Val Val Gln Leu Arg Arg Gln Arg Pro Asp Phe Glu Trp Asn Glu
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 Thr Cys Phe Ser Val Thr Ser Leu Ser Tyr His Arg Met Trp Met Val  
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 Cys Trp Pro Val Asn Tyr Arg Leu Ser Asn Ala Lys Lys Gln Ala Val  
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 His Thr Val Met Gly Ile Trp Met Val Ser Phe Ile Leu Ser Ala Leu  
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 Pro Ala Val Gly Trp His Asp Thr Ser Glu Arg Phe Tyr Thr His Gly  
 145 150 155 160  
 Cys Arg Phe Ile Val Ala Glu Ile Gly Leu Gly Phe Gly Val Cys Phe  
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 Leu Leu Leu Val Gly Gly Ser Val Ala Met Gly Val Ile Cys Thr Ala  
 180 185 190  
 Ile Ala Leu Phe Gln Thr Leu Ala Val Gln Val Gly Arg Gln Ala Asp  
 195 200 205  
 His Arg Ala Phe Thr Val Pro Thr Ile Val Val Glu Asp Ala Gln Gly  
 210 215 220  
 Lys Arg Arg Ser Ser Ile Asp Gly Ser Glu Pro Ala Lys Thr Ser Leu  
 225 230 235 240  
 Gln Thr Thr Gly Leu Val Thr Thr Ile Val Phe Ile Tyr Asp Cys Leu  
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 Met Gly Phe Pro Val Leu Val Val Ser Phe Ser Ser Leu Arg Ala Asp  
 260 265 270  
 Ala Ser Ala Pro Trp Met Ala Leu Cys Val Leu Trp Cys Ser Val Ala  
 275 280 285  
 Gln Ala Leu Leu Leu Pro Val Phe Leu Trp Ala Cys Asp Arg Tyr Arg  
 290 295 300  
 Ala Asp Leu Lys Ala Val Arg Glu Lys Cys Met Ala Leu Met Ala Asn  
 305 310 315 320  
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 325 330 335  
 Asp Leu Val Leu Glu Arg Ser Leu Asp Tyr Gly Tyr Gly Gly Asp Phe  
 340 345 350  
 Val Ala Leu Asp Arg Met Ala Lys Tyr Glu Ile Ser Ala Leu Glu Gly  
 355 360 365  
 Gly Leu Pro Gln Leu Tyr Pro Leu Arg Pro Leu Gln Glu Asp Lys Met  
 370 375 380  
 Gln Tyr Leu Gln Val Pro Pro Thr Arg Arg Phe Ser His Asp Asp Ala  
 385 390 395 400

- 99 -

Asp Val Trp Ala Ala Val Pro Leu Pro Ala Phe Leu Pro Arg Trp Gly  
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Ser Gly Glu Asp Leu Ala Ala Leu Ala His Leu Val Leu Pro Ala Gly  
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Pro Glu Arg Arg Arg Ala Ser Leu Leu Ala Phe Ala Glu Asp Ala Pro  
435 440 445

Pro Ser Arg Ala Arg Arg Arg Ser Ala Glu Ser Leu Leu Ser Leu Arg  
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465 470 475 480

Gly Ser Pro Arg Arg Arg Pro Gly Pro Gly Pro Arg Ser Ala Ser Ala  
485 490 495

Ser Leu Leu Pro Asp Ala Phe Ala Leu Thr Ala Phe Glu Cys Glu Pro  
500 505 510

Gln Ala Leu Arg Arg Pro Pro Gly Pro Phe Pro Ala Ala Pro Ala Ala  
515 520 525

Pro Asp Gly Ala Asp Pro Gly Glu Ala Pro Thr Pro Pro Ser Ser Ala  
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Gln Arg Ser Pro Gly Pro Arg Pro Ser Ala His Ser His Ala Gly Ser  
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Leu Arg Pro Gly Leu Ser Ala Ser Trp Gly Glu Pro Gly Gly Leu Arg  
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Ser

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Cys Gly Gly Leu Ser Leu Leu Ala Asn Ala Trp Gly Ile Leu Ser Val  
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ctc gcg gcc acc cac atg cta aat gtg gcc gtg ccc atc gcc acc tac	192
Leu Ala Ala Thr His Met Leu Asn Val Ala Val Pro Ile Ala Thr Tyr	
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tcc gtg gtg cag ctg cgg cgg cag cgc ccc gac ttc gag tgg aat gag	240
Ser Val Val Gln Leu Arg Arg Gln Arg Pro Asp Phe Glu Trp Asn Glu	
65 70 75 80	
ggg ctc tgc aag gtc ttc gtg tcc acc ttc tac acc ctc acc ctg gcc	288
Gly Leu Cys Lys Val Phe Val Ser Thr Phe Tyr Thr Leu Thr Leu Ala	
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Thr Cys Phe Ser Val Thr Ser Leu Ser Tyr His Arg Met Trp Met Val	
100 105 110	
tgc tgg cct gtc aac tac cgg ctg agc aat gcc aag aag cag gcg gtg	384
Cys Trp Pro Val Asn Tyr Arg Leu Ser Asn Ala Lys Lys Gln Ala Val	
115 120 125	
cac aca gtc atg ggt atc tgg atg gtg tcc ttc atc ctg tcg gcc ctg	432
His Thr Val Met Gly Ile Trp Met Val Ser Phe Ile Leu Ser Ala Leu	
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Pro Ala Val Gly Trp His Asp Thr Ser Glu Arg Phe Tyr Thr His Gly	
145 150 155 160	
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Cys Arg Phe Ile Val Ala Glu Ile Gly Leu Gly Phe Gly Val Cys Phe	
165 170 175	
ctg ctg ctg gtg ggc ggc agc gtg gcc atg ggc gtg atc tgc aca gcc	576
Leu Leu Leu Val Gly Gly Ser Val Ala Met Gly Val Ile Cys Thr Ala	
180 185 190	
atc gcc ctc ttc cag acg ctg gcc gtg cag gtg ggg cgc cag gcc gac	624
Ile Ala Leu Phe Gln Thr Leu Ala Val Gln Val Gly Arg Gln Ala Asp	
195 200 205	
cac cgc gcc ttc acc gtg ccc acc atc gtg gtg gag gac gcg cag ggc	672
His Arg Ala Phe Thr Val Pro Thr Ile Val Val Glu Asp Ala Gln Gly	
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aag cgg cgc tcc tcc atc gat ggc tcg gag ccc gcc aaa acc tct ctg	720
Lys Arg Arg Ser Ser Ile Asp Gly Ser Glu Pro Ala Lys Thr Ser Leu	
225 230 235 240	
cag acc acg ggc ctc gtg acc acc ata gtc ttc atc tac gac tgc ctc	768
Gln Thr Thr Gly Leu Val Thr Thr Ile Val Phe Ile Tyr Asp Cys Leu	
245 250 255	
atg ggc ttc cct gtg ctg gtg gtg agc ttc agc agc ctg cgg gcc gac	816
Met Gly Phe Pro Val Leu Val Val Ser Phe Ser Ser Leu Arg Ala Asp	
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gcc tca gcg ccc tgg atg gca ctc tgc gtg ctg tgg tgc tcc gtg gcc	864
Ala Ser Ala Pro Trp Met Ala Leu Cys Val Leu Trp Cys Ser Val Ala	
275 280 285	
cag gcc ctg ctg ctg cct gtg ttc ctc tgg gcc tgc gac cgc tac cgg	912
Gln Ala Leu Leu Leu Pro Val Phe Leu Trp Ala Cys Asp Arg Tyr Arg	
290 295 300	
gct gac ctc aaa gct gtc cgg gag aag tgc atg gcc ctc atg gcc aac	960
Ala Asp Leu Lys Ala Val Arg Glu Lys Cys Met Ala Leu Met Ala Asn	
305 310 315 320	
gac gag gag tca gac gat gag acc agc ctg gaa ggt ggc atc tcc ccg	1008
Asp Glu Glu Ser Asp Asp Glu Thr Ser Leu Glu Gly Gly Ile Ser Pro	
325 330 335	
gac ctg gtg ttg gag cgc tcc ctg gac tat ggc tat gga ggt gat ttt	1056
Asp Leu Val Leu Glu Arg Ser Leu Asp Tyr Gly Tyr Gly Gly Asp Phe	
340 345 350	
gtg gcc cta gat agg atg gcc aag tat gag atc tcc gcc ctg gag ggg	1104
Val Ala Leu Asp Arg Met Ala Lys Tyr Glu Ile Ser Ala Leu Glu Gly	
355 360 365	
ggc ctg ccc cag ctc tac cca ctg cgg ccc ttg cag gag gac aag atg	1152
Gly Leu Pro Gln Leu Tyr Pro Leu Arg Pro Leu Gln Glu Asp Lys Met	
370 375 380	
caa tac ctg cag gtc ccg ccc acg cgg cgc ttc tcc cac gac gat gcg	1200
Gln Tyr Leu Gln Val Pro Pro Thr Arg Arg Phe Ser His Asp Asp Ala	
385 390 395 400	
gac gtg tgg gcc gcc gtc ccg ctg ccc gcc ttc ctg ccg cgc tgg ggc	1248
Asp Val Trp Ala Ala Val Pro Leu Pro Ala Phe Leu Pro Arg Trp Gly	
405 410 415	
tcc ggc gag gac ctg gcc gcc ctg gcg cac ctg gtg ctg cct gcc ggg	1296
Ser Gly Glu Asp Leu Ala Ala Leu Ala His Leu Val Leu Pro Ala Gly	
420 425 430	
ccc gag cgg cgc cgc gcc agc ctc ctg gcc ttc gcg gag gac gca cca	1344
Pro Glu Arg Arg Arg Ala Ser Leu Leu Ala Phe Ala Glu Asp Ala Pro	
435 440 445	
ccg tcc cgc gcg cgc cgc cgc tcg gcc gag agc ctg ctg tcg ctg cgg	1392
Pro Ser Arg Ala Arg Arg Arg Ser Ala Glu Ser Leu Leu Ser Leu Arg	
450 455 460	
acc tcg gcc ctg gat agc ggc ccg cgg gga gcc cgc gac tcg ccc ccc	1440
Thr Ser Ala Leu Asp Ser Gly Pro Arg Gly Ala Arg Asp Ser Pro Pro	
465 470 475 480	
ggc agc ccg cgc cgc cgc ccc ggg ccc ggc ccc cgc tcc gcc tcg gcc	1488
Gly Ser Pro Arg Arg Arg Pro Gly Pro Gly Pro Arg Ser Ala Ser Ala	
485 490 495	
tcg ctg ctg ccc gac gcc ttc gcc ctg acc gcc ttc gag tgc gag cca	1536
Ser Leu Leu Pro Asp Ala Phe Ala Leu Thr Ala Phe Glu Cys Glu Pro	
500 505 510	

- 102 -

cag gcc ctg cgc cgc ccg ccc ggg ccc ttc ccc gct gcg ccc gcc gcc	1584
Gln Ala Leu Arg Arg Pro Pro Gly Pro Phe Pro Ala Ala Pro Ala Ala	
515 520 525	
ccc gac ggc gca gat ccc gga gag gcc ccg acg ccc cca agc agc gcc	1632
Pro Asp Gly Ala Asp Pro Gly Glu Ala Pro Thr Pro Pro Ser Ser Ala	
530 535 540	
cag cgg agc cca ggg cca cgc ccc tct gcg cac tcg cac gcc ggc tct	1680
Gln Arg Ser Pro Gly Pro Arg Pro Ser Ala His Ser His Ala Gly Ser	
545 550 555 560	
ctg cgc ccc ggc ctg agc gcg tcg tgg ggc gag ccc ggg ggg ctg cgc	1728
Leu Arg Pro Gly Leu Ser Ala Ser Trp Gly Glu Pro Gly Gly Leu Arg	
565 570 575	
gcg gcg ggc ggc ggc ggc agc acc agc agc ttc ctg agt tcc ccc tcc	1776
Ala Ala Gly Gly Gly Ser Thr Ser Ser Phe Leu Ser Ser Pro Ser	
580 585 590	
gag tcc tcg ggc tac gcc acg ctg cac tcg gac tcg ctg ggc tcc gcg	1824
Glu Ser Ser Gly Tyr Ala Thr Leu His Ser Asp Ser Leu Gly Ser Ala	
595 600 605	
tcc	1827
Ser	
 <210> 76	
<211> 177	
<212> PRT	
<213> Homo sapiens	
 <220>	
<223> Xaas at positions 38, 55 and 56 may be any amino acid	
 <400> 76	
Gly Asn Ile Leu Val Ile Trp Val Ile Cys Arg Tyr Arg Arg Met Arg	
1 5 10 15	
Thr Pro Met Asn Tyr Phe Ile Val Asn Leu Ala Val Ala Asp Leu Leu	
20 25 30	
Phe Ser Leu Phe Thr Xaa Met Pro Phe Trp Met Val Tyr Tyr Val Met	
35 40 45	
Gln Gly Arg Trp Pro Phe Xaa Xaa Gly Asp Phe Met Cys Arg Ile Trp	
50 55 60	
Met Tyr Phe Asp Tyr Met Asn Met Tyr Ala Ser Ile Phe Phe Leu Thr	
65 70 75 80	
Cys Ile Ser Ile Asp Arg Tyr Leu Trp Ala Ile Cys His Pro Met Arg	
85 90 95	
Tyr Met Arg Trp Met Thr Pro Arg His Arg Ala Trp Val Met Ile Ile	
100 105 110	

- 103 -

Ile Ile Trp Val Met Ser Phe Leu Ile Ser Met Pro Pro Phe Leu Met  
 115 120 125

Phe Arg Trp Ser Thr Tyr Arg Asp Glu Asn Glu Trp Asn Met Thr Trp  
 130 135 140

Cys Met Ile Tyr Asp Trp Pro Glu Trp Met Trp Arg Trp Tyr Val Ile  
 145 150 155 160

Leu Met Thr Ile Ile Met Gly Phe Tyr Ile Pro Met Ile Ile Met Leu  
 165 170 175

Phe

<210> 77

<211> 107

<212> PRT

<213> Homo sapiens

<220>

<223> Xaa at position 84 may be any amino acid

<400> 77

Ile Gln Glu Arg Met Asn Glu Leu Asn Asp Arg Trp Glu Arg Leu Lys  
 1 5 10 15

Glu Leu Met Glu Gln Arg Arg Gln Met Leu Glu Asp Ser Met Arg Leu  
 20 25 30

Gln Gln Phe Phe Arg Asp Met Asp Glu Glu Glu Ser Trp Ile Asn Glu  
 35 40 45

Lys Glu Gln Ile Leu Asn Ser Asp Asp Tyr Gly Lys Asp Leu Thr Ser  
 50 55 60

Val Gln Asn Leu Leu Lys Lys His Gln Ala Phe Glu Ala Asp Ile Ala  
 65 70 75 80

Ala His Glu Xaa Asp Arg Ile Gln Ala Leu Asn Glu Phe Ala Gln Gln  
 85 90 95

Leu Ile Gln Glu Asn His Tyr Ala Ser Glu Glu  
 100 105

<210> 78

<211> 588

<212> PRT

<213> Homo sapiens

<400> 78

Met Ala Arg Gly Gly Ala Gly Ala Glu Glu Ala Ser Leu Arg Ser Asn  
 1 5 10 15

Ala Leu Ser Trp Leu Ala Cys Gly Leu Leu Ala Leu Leu Ala Asn Ala  
 20 25 30

- 104 -

Trp Ile Ile Leu Ser Ile Ser Ala Lys Gln Gln Lys His Lys Pro Leu  
 35 40 45  
 Glu Leu Leu Leu Cys Phe Leu Ala Gly Thr His Ile Leu Met Ala Ala  
 50 55 60  
 Val Pro Leu Thr Thr Phe Ala Val Val Gln Leu Arg Arg Gln Ala Ser  
 65 70 75 80  
 Ser Asp Tyr Asp Trp Asn Glu Ser Ile Cys Lys Val Phe Val Ser Thr  
 85 90 95  
 Tyr Tyr Thr Leu Ala Leu Ala Thr Cys Phe Thr Val Ala Ser Leu Ser  
 100 105 110  
 Tyr His Arg Met Trp Met Val Arg Trp Pro Val Asn Tyr Arg Leu Ser  
 115 120 125  
 Asn Ala Lys Lys Gln Ala Leu His Ala Val Met Gly Ile Trp Met Val  
 130 135 140  
 Ser Phe Ile Leu Ser Thr Leu Pro Ser Ile Gly Trp His Asn Asn Gly  
 145 150 155 160  
 Glu Arg Tyr Tyr Ala Arg Gly Cys Gln Phe Ile Val Ser Lys Ile Gly  
 165 170 175  
 Leu Gly Phe Gly Val Cys Phe Ser Leu Leu Leu Leu Gly Gly Ile Val  
 180 185 190  
 Met Gly Leu Val Cys Val Ala Ile Thr Phe Tyr Gln Thr Leu Trp Ala  
 195 200 205  
 Arg Pro Arg Arg Ala Arg Gln Ala Arg Arg Val Gly Gly Gly Gly Gly  
 210 215 220  
 Thr Lys Ala Gly Gly Pro Gly Ala Leu Gly Thr Arg Pro Ala Phe Glu  
 225 230 235 240  
 Val Pro Ala Ile Val Val Glu Asp Ala Arg Gly Lys Arg Arg Ser Ser  
 245 250 255  
 Leu Asp Gly Ser Glu Ser Ala Lys Thr Ser Leu Gln Val Thr Asn Leu  
 260 265 270  
 Val Ser Ala Ile Val Phe Leu Tyr Asp Ser Leu Thr Gly Val Pro Ile  
 275 280 285  
 Leu Val Val Ser Phe Phe Ser Leu Lys Ser Asp Ser Ala Pro Pro Trp  
 290 295 300  
 Met Val Leu Ala Val Leu Trp Cys Ser Met Ala Gln Thr Leu Leu Leu  
 305 310 315 320  
 Pro Ser Phe Ile Trp Ser Cys Glu Arg Tyr Arg Ala Asp Val Arg Thr  
 325 330 335  
 Val Trp Glu Gln Cys Val Ala Ile Met Ser Glu Glu Asp Gly Asp Asp  
 340 345 350

- 105 -

Asp Gly Gly Cys Asp Asp Tyr Ala Glu Gly Arg Val Cys Lys Val Arg  
 355 360 365  
 Phe Asp Ala Asn Gly Ala Thr Gly Pro Gly Ser Arg Asp Pro Ala Gln  
 370 375 380  
 Val Lys Leu Leu Pro Gly Arg His Met Leu Phe Pro Pro Leu Glu Arg  
 385 390 395 400  
 Val His Tyr Leu Gln Val Pro Leu Ser Arg Arg Leu Ser His Asp Glu  
 405 410 415  
 Thr Asn Ile Phe Ser Thr Pro Arg Glu Pro Gly Ser Phe Leu His Lys  
 420 425 430  
 Trp Ser Ser Ser Asp Asp Ile Arg Val Leu Pro Ala Gln Ser Arg Ala  
 435 440 445  
 Leu Gly Gly Pro Pro Glu Tyr Leu Gly Gln Arg His Arg Leu Glu Asp  
 450 455 460  
 Glu Glu Asp Glu Glu Glu Ala Glu Gly Gly Gly Leu Ala Ser Leu Arg  
 465 470 475 480  
 Gln Phe Leu Glu Ser Gly Val Leu Gly Ser Gly Gly Gly Pro Pro Arg  
 485 490 495  
 Gly Pro Gly Phe Phe Arg Glu Glu Ile Thr Thr Phe Ile Asp Glu Thr  
 500 505 510  
 Pro Leu Pro Ser Pro Thr Ala Ser Pro Gly His Ser Pro Arg Arg Pro  
 515 520 525  
 Arg Pro Leu Gly Leu Ser Pro Arg Arg Leu Ser Leu Gly Ser Pro Glu  
 530 535 540  
 Ser Arg Ala Val Gly Leu Pro Leu Gly Leu Ser Ala Gly Arg Arg Cys  
 545 550 555 560  
 Ser Leu Thr Gly Gly Glu Glu Ser Ala Arg Ala Trp Gly Gly Ser Trp  
 565 570 575  
 Gly Pro Gly Asn Pro Ile Phe Pro Gln Leu Thr Leu  
 580 585

&lt;210&gt; 79

&lt;211&gt; 227

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 79

Ile Thr Phe Tyr Gln Thr Leu Trp Ala Arg Pro Arg Arg Ala Arg Gln  
 1 5 10 15  
 Ala Arg Arg Val Gly Gly Gly Gly Gly Thr Lys Ala Gly Gly Pro Gly  
 20 25 30  
 Ala Leu Gly Thr Arg Pro Ala Phe Glu Val Pro Ala Ile Val Val Glu  
 35 40 45

- 106 -

Asp Ala Arg Gly Lys Arg Arg Ser Ser Leu Asp Gly Ser Glu Ser Ala  
 50 55 60  
 Lys Thr Ser Leu Gln Val Thr Asn Leu Val Val Ser Phe Phe Ser Leu  
 65 70 75 80  
 Lys Ser Asp Ser Ala Pro Pro Trp Met Val Leu Ala Val Leu Trp Cys  
 85 90 95  
 Ser Met Ala Gln Thr Leu Leu Leu Pro Ser Phe Ile Trp Ser Cys Glu  
 100 105 110  
 Arg Tyr Arg Ala Asp Val Arg Thr Val Trp Glu Gln Cys Val Ala Ile  
 115 120 125  
 Met Ser Glu Glu Asp Gly Asp Asp Asp Gly Gly Cys Asp Asp Tyr Ala  
 130 135 140  
 Glu Gly Arg Val Cys Lys Val Arg Phe Asp Ala Asn Gly Ala Thr Gly  
 145 150 155 160  
 Pro Gly Ser Arg Asp Pro Ala Gln Val Lys Leu Leu Pro Gly Arg His  
 165 170 175  
 Met Leu Phe Pro Pro Leu Glu Arg Val His Tyr Leu Gln Leu Lys Lys  
 180 185 190  
 Leu Asp Leu Ala Ala Ala Ala Ala His Thr Phe Phe Val Ala Asn Pro  
 195 200 205  
 Met His Leu Gln Met Arg Glu Asp Met Ala Lys Tyr Arg Arg Met Ser  
 210 215 220  
 Gly Val Arg  
 225  
 <210> 80  
 <211> 425  
 <212> PRT  
 <213> Homo sapiens  
 <400> 80  
 Met Gly Pro Arg Arg Leu Leu Leu Val Ala Ala Cys Phe Ser Leu Cys  
 1 5 10 15  
 Gly Pro Leu Leu Ser Ala Arg Thr Arg Ala Arg Arg Pro Glu Ser Lys  
 20 25 30  
 Ala Thr Asn Ala Thr Leu Asp Pro Arg Ser Phe Leu Leu Arg Asn Pro  
 35 40 45  
 Asn Asp Lys Tyr Glu Pro Phe Trp Glu Asp Glu Glu Lys Asn Glu Ser  
 50 55 60  
 Gly Leu Thr Glu Tyr Arg Leu Val Ser Ile Asn Lys Ser Ser Pro Leu  
 65 70 75 80

- 107 -

Gln Lys Gln Leu Pro Ala Phe Ile Ser Glu Asp Ala Ser Gly Tyr Leu  
 85 90 95  
 Thr Ser Ser Trp Leu Thr Leu Phe Val Pro Ser Val Tyr Thr Gly Val  
 100 105 110  
 Phe Val Val Ser Leu Pro Leu Asn Ile Met Ala Ile Val Val Phe Ile  
 115 120 125  
 Leu Lys Met Lys Val Lys Lys Pro Ala Val Val Tyr Met Leu His Leu  
 130 135 140  
 Ala Thr Ala Asp Val Leu Phe Val Ser Val Leu Pro Phe Lys Ile Ser  
 145 150 155 160  
 Tyr Tyr Phe Ser Gly Ser Asp Trp Gln Phe Gly Ser Glu Leu Cys Arg  
 165 170 175  
 Phe Val Thr Ala Ala Phe Tyr Cys Asn Met Tyr Ala Ser Ile Leu Leu  
 180 185 190  
 Met Thr Val Ile Ser Ile Asp Arg Phe Leu Ala Val Val Tyr Pro Met  
 195 200 205  
 Gln Ser Leu Ser Trp Arg Thr Leu Gly Arg Ala Ser Phe Thr Cys Leu  
 210 215 220  
 Ala Ile Trp Ala Leu Ala Ile Ala Gly Val Val Pro Leu Val Leu Lys  
 225 230 235 240  
 Glu Gln Thr Ile Gln Val Pro Gly Leu Asn Ile Thr Thr Cys His Asp  
 245 250 255  
 Val Leu Asn Glu Thr Leu Leu Glu Gly Tyr Tyr Ala Tyr Tyr Phe Ser  
 260 265 270  
 Ala Phe Ser Ala Val Phe Phe Phe Val Pro Leu Ile Ile Ser Thr Val  
 275 280 285  
 Cys Tyr Val Ser Ile Ile Arg Cys Leu Ser Ser Ser Ala Val Ala Asn  
 290 295 300  
 Arg Ser Lys Lys Ser Arg Ala Leu Phe Leu Ser Ala Ala Val Phe Cys  
 305 310 315 320  
 Ile Phe Ile Ile Cys Phe Gly Pro Thr Asn Val Leu Leu Ile Ala His  
 325 330 335  
 Tyr Ser Phe Leu Ser His Thr Ser Thr Thr Glu Ala Ala Tyr Phe Ala  
 340 345 350  
 Tyr Leu Leu Cys Val Cys Val Ser Ser Ile Ser Ser Cys Ile Asp Pro  
 355 360 365  
 Leu Ile Tyr Tyr Tyr Ala Ser Ser Glu Cys Gln Arg Tyr Val Tyr Ser  
 370 375 380  
 Ile Leu Cys Cys Lys Glu Ser Ser Asp Pro Ser Ser Tyr Asn Ser Ser  
 385 390 395 400

- 108 -

Gly Gln Leu Met Ala Ser Lys Met Asp Thr Cys Ser Ser Asn Leu Asn  
 405 410 415

Asn Ser Ile Tyr Lys Lys Leu Leu Thr  
 420 425

&lt;210&gt; 81

&lt;211&gt; 348

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 81

Met Asn Gly Thr Glu Gly Pro Asn Phe Tyr Val Pro Phe Ser Asn Ala  
 1 5 10 15

Thr Gly Val Val Arg Ser Pro Phe Glu Tyr Pro Gln Tyr Tyr Leu Ala  
 20 25 30

Glu Pro Trp Gln Phe Ser Met Leu Ala Ala Tyr Met Phe Leu Leu Ile  
 35 40 45

Val Leu Gly Phe Pro Ile Asn Phe Leu Thr Leu Tyr Val Thr Val Gln  
 50 55 60

His Lys Lys Leu Arg Thr Pro Leu Asn Tyr Ile Leu Leu Asn Leu Ala  
 65 70 75 80

Val Ala Asp Leu Phe Met Val Leu Gly Gly Phe Thr Ser Thr Leu Tyr  
 85 90 95

Thr Ser Leu His Gly Tyr Phe Val Phe Gly Pro Thr Gly Cys Asn Leu  
 100 105 110

Glu Gly Phe Phe Ala Thr Leu Gly Gly Glu Ile Ala Leu Trp Ser Leu  
 115 120 125

Val Val Leu Ala Ile Glu Arg Tyr Val Val Val Cys Lys Pro Met Ser  
 130 135 140

Asn Phe Arg Phe Gly Glu Asn His Ala Ile Met Gly Val Ala Phe Thr  
 145 150 155 160

Trp Val Met Ala Leu Ala Cys Ala Ala Pro Pro Leu Ala Gly Trp Ser  
 165 170 175

Arg Tyr Ile Pro Glu Gly Leu Gln Cys Ser Cys Gly Ile Asp Tyr Tyr  
 180 185 190

Thr Leu Lys Pro Glu Val Asn Asn Glu Ser Phe Val Ile Tyr Met Phe  
 195 200 205

Val Val His Phe Thr Ile Pro Met Ile Ile Ile Phe Phe Cys Tyr Gly  
 210 215 220

Gln Leu Val Phe Thr Val Lys Glu Ala Ala Ala Gln Gln Gln Glu Ser  
 225 230 235 240

Ala Thr Thr Gln Lys Ala Glu Lys Glu Val Thr Arg Met Val Ile Ile  
 245 250 255

- 109 -

Met Val Ile Ala Phe Leu Ile Cys Trp Val Pro Tyr Ala Ser Val Ala  
 260 265 270

Phe Tyr Ile Phe Thr His Gln Gly Ser Asn Phe Gly Pro Ile Phe Met  
 275 280 285

Thr Ile Pro Ala Phe Phe Ala Lys Ser Ala Ala Ile Tyr Asn Pro Val  
 290 295 300

Ile Tyr Ile Met Met Asn Lys Gln Phe Arg Asn Cys Met Leu Thr Thr  
 305 310 315 320

Ile Cys Cys Gly Lys Asn Pro Leu Gly Asp Asp Glu Ala Ser Ala Thr  
 325 330 335

Val Ser Lys Thr Glu Thr Ser Gln Val Ala Pro Ala  
 340 345

<210> 82  
 <211> 460  
 <212> PRT  
 <213> Rattus Norvegicus

<400> 82  
 Met Asn Thr Ser Val Pro Pro Ala Val Ser Pro Asn Ile Thr Val Leu  
 1 5 10 15

Ala Pro Gly Lys Gly Pro Trp Gln Val Ala Phe Ile Gly Ile Thr Thr  
 20 25 30

Gly Leu Leu Ser Leu Ala Thr Val Thr Gly Asn Leu Leu Val Leu Ile  
 35 40 45

Ser Phe Lys Val Asn Thr Glu Leu Lys Thr Val Asn Asn Tyr Phe Leu  
 50 55 60

Leu Ser Leu Ala Cys Ala Asp Leu Ile Ile Gly Thr Phe Ser Met Asn  
 65 70 75 80

Leu Tyr Thr Thr Tyr Leu Leu Met Gly His Trp Ala Leu Gly Thr Leu  
 85 90 95

Ala Cys Asp Leu Trp Leu Ala Leu Asp Tyr Val Ala Ser Asn Ala Ser  
 100 105 110

Val Met Asn Leu Leu Leu Ile Ser Phe Asp Arg Tyr Phe Ser Val Thr  
 115 120 125

Arg Pro Leu Ser Tyr Arg Ala Lys Arg Thr Pro Arg Arg Ala Ala Leu  
 130 135 140

Met Ile Gly Leu Ala Trp Leu Val Ser Phe Val Leu Trp Ala Pro Ala  
 145 150 155 160

Ile Leu Phe Trp Gln Tyr Leu Val Gly Glu Arg Thr Val Leu Ala Gly  
 165 170 175

- 110 -

Gln Cys Tyr Ile Gln Phe Leu Ser Gln Pro Ile Ile Thr Phe Gly Thr  
 180 185 190  
 Ala Met Ala Ala Phe Tyr Leu Pro Val Thr Val Met Cys Thr Leu Tyr  
 195 200 205  
 Trp Arg Ile Tyr Arg Glu Thr Glu Asn Arg Ala Arg Glu Leu Ala Ala  
 210 215 220  
 Leu Gln Gly Ser Glu Thr Pro Gly Lys Gly Gly Gly Ser Ser Ser Ser  
 225 230 235 240  
 Ser Glu Arg Ser Gln Pro Gly Ala Glu Gly Ser Pro Glu Ser Pro Pro  
 245 250 255  
 Gly Arg Cys Cys Arg Cys Cys Arg Ala Pro Arg Leu Leu Gln Ala Tyr  
 260 265 270  
 Ser Trp Lys Glu Glu Glu Glu Glu Asp Glu Gly Ser Met Glu Ser Leu  
 275 280 285  
 Thr Ser Ser Glu Gly Glu Glu Pro Gly Ser Glu Val Val Ile Lys Met  
 290 295 300  
 Pro Met Val Asp Ser Glu Ala Gln Ala Pro Thr Lys Gln Pro Pro Lys  
 305 310 315 320  
 Ser Ser Pro Asn Thr Val Lys Arg Pro Thr Lys Lys Gly Arg Asp Arg  
 325 330 335  
 Gly Gly Lys Gly Gln Lys Pro Arg Gly Lys Glu Gln Leu Ala Lys Arg  
 340 345 350  
 Lys Thr Phe Ser Leu Val Lys Glu Lys Lys Ala Ala Arg Thr Leu Ser  
 355 360 365  
 Ala Ile Leu Leu Ala Phe Ile Leu Thr Trp Thr Pro Tyr Asn Ile Met  
 370 375 380  
 Val Leu Val Ser Thr Phe Cys Lys Asp Cys Val Pro Glu Thr Leu Trp  
 385 390 395 400  
 Glu Leu Gly Tyr Trp Leu Cys Tyr Val Asn Ser Thr Val Asn Pro Met  
 405 410 415  
 Cys Tyr Ala Leu Cys Asn Lys Ala Phe Arg Asp Thr Phe Arg Leu Leu  
 420 425 430  
 Leu Leu Cys Arg Trp Asp Lys Arg Arg Trp Arg Lys Ile Pro Lys Arg  
 435 440 445  
 Pro Gly Ser Val His Arg Thr Pro Ser Arg Gln Cys  
 450 455 460

&lt;210&gt; 83

&lt;211&gt; 350

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

- 111 -

&lt;400&gt; 83

Met Ser Asn Ile Thr Asp Pro Gln Met Trp Asp Phe Asp Asp Leu Asn  
 1 5 10 15  
 Phe Thr Gly Met Pro Pro Ala Asp Glu Asp Tyr Ser Pro Cys Met Leu  
 20 25 30  
 Glu Thr Glu Thr Leu Asn Lys Tyr Val Val Ile Ile Ala Tyr Ala Leu  
 35 40 45  
 Val Phe Leu Leu Ser Leu Leu Gly Asn Ser Leu Val Met Leu Val Ile  
 50 55 60  
 Leu Tyr Ser Arg Val Gly Arg Ser Val Thr Asp Val Tyr Leu Leu Asn  
 65 70 75 80  
 Leu Ala Leu Ala Asp Leu Leu Phe Ala Leu Thr Leu Pro Ile Trp Ala  
 85 90 95  
 Ala Ser Lys Val Asn Gly Trp Ile Phe Gly Thr Phe Leu Cys Lys Val  
 100 105 110  
 Val Ser Leu Leu Lys Glu Val Asn Phe Tyr Ser Gly Ile Leu Leu Leu  
 115 120 125  
 Ala Cys Ile Ser Val Asp Arg Tyr Leu Ala Ile Val His Ala Thr Arg  
 130 135 140  
 Thr Leu Thr Gln Lys Arg His Leu Val Lys Phe Val Cys Leu Gly Cys  
 145 150 155 160  
 Trp Gly Leu Ser Met Asn Leu Ser Leu Pro Phe Phe Leu Phe Arg Gln  
 165 170 175  
 Ala Tyr His Pro Asn Asn Ser Ser Pro Val Cys Tyr Glu Val Leu Gly  
 180 185 190  
 Asn Asp Thr Ala Lys Trp Arg Met Val Leu Arg Ile Leu Pro His Thr  
 195 200 205  
 Phe Gly Phe Ile Val Pro Leu Phe Val Met Leu Phe Cys Tyr Gly Phe  
 210 215 220  
 Thr Leu Arg Thr Leu Phe Lys Ala His Met Gly Gln Lys His Arg Ala  
 225 230 235 240  
 Met Arg Val Ile Phe Ala Val Val Leu Ile Phe Leu Leu Cys Trp Leu  
 245 250 255  
 Pro Tyr Asn Leu Val Leu Leu Ala Asp Thr Leu Met Arg Thr Gln Val  
 260 265 270  
 Ile Gln Glu Thr Cys Glu Arg Arg Asn Asn Ile Gly Arg Ala Leu Asp  
 275 280 285  
 Ala Thr Glu Ile Leu Gly Phe Leu His Ser Cys Leu Asn Pro Ile Ile  
 290 295 300  
 Tyr Ala Phe Ile Gly Gln Asn Phe Arg His Gly Phe Leu Lys Ile Leu  
 305 310 315 320

- 112 -

Ala Met His Gly Leu Val Ser Lys Glu Phe Leu Ala Arg His Arg Val  
                   325                                  330                                  335

Thr Ser Tyr Thr Ser Ser Ser Val Asn Val Ser Ser Asn Leu  
                   340                                  345                                  350

&lt;210&gt; 84

&lt;211&gt; 601

&lt;212&gt; PRT

&lt;213&gt; Drosophila melanogaster

&lt;400&gt; 84

Met Pro Ser Ala Asp Gln Ile Leu Phe Val Asn Val Thr Thr Thr Val  
   1                                  5                                  10                                  15

Ala Ala Ala Ala Leu Thr Ala Ala Ala Val Ser Thr Thr Lys Ser  
                   20                                  25                                  30

Gly Asn Gly Asn Ala Ala Arg Gly Tyr Thr Asp Ser Asp Asp Asp Ala  
                   35                                  40                                  45

Gly Met Gly Thr Glu Ala Val Ala Asn Ile Ser Gly Ser Leu Val Glu  
                   50                                  55                                  60

Gly Leu Thr Thr Val Thr Ala Ala Leu Ser Thr Ala Gln Ala Asp Lys  
                   65                                  70                                  75                                  80

Asp Ser Ala Gly Glu Cys Glu Gly Ala Val Glu Glu Leu His Ala Ser  
                                   85                                  90                                  95

Ile Leu Gly Leu Gln Leu Ala Val Pro Glu Trp Glu Ala Leu Leu Thr  
                   100                                  105                                  110

Ala Leu Val Leu Ser Val Ile Ile Val Leu Thr Ile Ile Gly Asn Ile  
                   115                                  120                                  125

Leu Val Ile Leu Ser Val Phe Thr Tyr Lys Pro Leu Arg Ile Val Gln  
                   130                                  135                                  140

Asn Phe Phe Ile Val Ser Leu Ala Val Ala Asp Leu Thr Val Ala Leu  
                   145                                  150                                  155                                  160

Leu Val Leu Pro Phe Asn Val Ala Tyr Ser Ile Leu Gly Arg Trp Glu  
                                   165                                  170                                  175

Phe Gly Ile His Leu Cys Lys Leu Trp Leu Thr Cys Asp Val Leu Cys  
                   180                                  185                                  190

Cys Thr Ser Ser Ile Leu Asn Leu Cys Ala Ile Ala Leu Asp Arg Tyr  
                   195                                  200                                  205

Trp Ala Ile Thr Asp Pro Ile Asn Tyr Ala Gln Lys Arg Thr Val Gly  
                   210                                  215                                  220

Arg Val Leu Leu Leu Ile Ser Gly Val Trp Leu Leu Ser Leu Leu Ile  
                   225                                  230                                  235                                  240

- 113 -

Ser Ser Pro Pro Leu Ile Gly Trp Asn Asp Trp Pro Asp Glu Phe Thr  
 245 250 255  
 Ser Ala Thr Pro Cys Glu Leu Thr Ser Gln Arg Gly Tyr Val Ile Tyr  
 260 265 270  
 Ser Ser Leu Gly Ser Phe Phe Ile Pro Leu Ala Ile Met Thr Ile Val  
 275 280 285  
 Tyr Ile Glu Ile Phe Val Ala Thr Arg Arg Arg Leu Arg Glu Arg Ala  
 290 295 300  
 Arg Ala Asn Lys Leu Asn Thr Ile Ala Leu Lys Ser Thr Glu Leu Glu  
 305 310 315 320  
 Pro Met Ala Asn Ser Ser Pro Val Ala Ala Ser Asn Ser Gly Ser Lys  
 325 330 335  
 Ser Arg Leu Leu Ala Ser Trp Leu Cys Cys Gly Arg Asp Arg Ala Gln  
 340 345 350  
 Phe Ala Thr Pro Met Ile Gln Asn Asp Gln Glu Ser Ile Ser Ser Glu  
 355 360 365  
 Thr His Gln Pro Gln Asp Ser Ser Lys Ala Gly Pro His Gly Asn Ser  
 370 375 380  
 Asp Pro Gln Gln Gln His Val Val Val Leu Val Lys Lys Ser Arg Arg  
 385 390 395 400  
 Ala Lys Thr Lys Asp Ser Ile Lys His Gly Lys Thr Arg Gly Gly Arg  
 405 410 415  
 Lys Ser Gln Ser Ser Ser Thr Cys Glu Pro His Gly Glu Gln Gln Leu  
 420 425 430  
 Leu Pro Ala Gly Gly Asp Gly Gly Ser Cys Gln Pro Gly Gly Gly His  
 435 440 445  
 Ser Gly Gly Gly Lys Ser Asp Ala Glu Ile Ser Thr Glu Ser Gly Ser  
 450 455 460  
 Asp Pro Lys Gly Cys Ile Gln Val Cys Val Thr Gln Ala Asp Glu Gln  
 465 470 475 480  
 Thr Ser Leu Lys Leu Thr Pro Pro Gln Ser Ser Thr Gly Val Ala Ala  
 485 490 495  
 Val Ser Val Thr Pro Leu Gln Lys Lys Thr Ser Gly Val Asn Gln Phe  
 500 505 510  
 Ile Glu Glu Lys Gln Lys Ile Ser Leu Ser Lys Glu Arg Arg Ala Ala  
 515 520 525  
 Arg Thr Leu Gly Ile Ile Met Gly Val Phe Val Ile Cys Trp Leu Pro  
 530 535 540  
 Phe Phe Leu Met Tyr Val Ile Leu Pro Phe Cys Gln Thr Cys Cys Pro  
 545 550 555 560

- 114 -

Thr Asn Lys Phe Lys Asn Phe Ile Thr Trp Leu Gly Tyr Ile Asn Ser  
                                   565                                  570                                  575

Gly Leu Asn Pro Val Ile Tyr Thr Ile Phe Asn Leu Asp Tyr Arg Arg  
                                   580                                  585                                  590

Ala Phe Lys Arg Leu Leu Gly Leu Asn  
                                   595                                  600

&lt;210&gt; 85

&lt;211&gt; 19

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Primer

&lt;400&gt; 85

agatgccacc ttccaggct

19

&lt;210&gt; 86

&lt;211&gt; 19

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Primer

&lt;400&gt; 86

ggagaagtgc atggccctc

19

&lt;210&gt; 87

&lt;211&gt; 27

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Probe

&lt;400&gt; 87

tctcatcgtc tgactcctcg tcgttgg

27

&lt;210&gt; 88

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Primer

&lt;400&gt; 88

ggcgggtgcac acagttat

18

- 115 -

<210> 89  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 89  
 agagagcgct ccaaatacca t 21

<210> 90  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 90  
 Lys Arg Arg Ser  
 1

<210> 91  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 91  
 Ser Ser Ile Asp  
 1

<210> 92  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 92  
 Ser Arg Gln Asp  
 1

<210> 93  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 93  
 Gly Ser Ala Val Gly Trp  
 1 5

<210> 94  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 94  
 Gly Leu Gly Phe Gly Val  
 1 5

- 116 -

<210> 95  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 95  
Gly Gly Ser Val Ala Met  
1 5

<210> 96  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 96  
Gly Val Ile Cys Thr Ala  
1 5

<210> 97  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 97  
Gly Ser Glu Pro Ala Lys  
1 5

<210> 98  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 98  
Gly Leu Val Thr Thr Ile  
1 5

<210> 99  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 99  
Gln Gly Lys Arg  
1

<210> 100  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 100  
Lys Arg Arg Ser  
1

- 117 -

<210> 101  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 101  
Arg Arg Phe Ser  
1

<210> 102  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 102  
Arg Arg Ala Ser  
1

<210> 103  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 103  
Arg Arg Arg Ser  
1

<210> 104  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 104  
Ser Ser Ile Asp  
1

<210> 105  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 105  
Ser Ser Asp Glu  
1

<210> 106  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 106  
Thr Ser Leu Glu  
1

- 118 -

<210> 107  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 107  
Ser Ala Leu Glu  
1

<210> 108  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 108  
Ser His Asp Asp  
1

<210> 109  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 109  
Ser Gly Glu Asp  
1

<210> 110  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 110  
Ser Ala Leu Asp  
1

<210> 111  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 111  
Thr Ala Phe Glu  
1

<210> 112  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 112  
Ser Trp Gly Glu  
1

- 119 -

<210> 113  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 113  
Ser Pro Ser Glu  
1

<210> 114  
<211> 7  
<212> PRT  
<213> Homo sapiens

<400> 114  
Arg Ser Leu Asp Tyr Gly Tyr  
1 5

<210> 115  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 115  
Gly Ser Ala Val Gly Trp  
1 5

<210> 116  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 116  
Gly Leu Gly Phe Gly Val  
1 5

<210> 117  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 117  
Gly Gly Ser Val Ala Met  
1 5

<210> 118  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 118  
Gly Val Ile Cys Thr Ala  
1 5

- 120 -

<210> 119  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 119  
Gly Ser Glu Pro Ala Lys  
1 5

<210> 120  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 120  
Gly Leu Val Thr Thr Ile  
1 5

<210> 121  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 121  
Gly Ala Asp Pro Gly Glu  
1 5

<210> 122  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 122  
Gly Leu Ser Ala Ser Trp  
1 5

<210> 123  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 123  
Gly Gly Leu Arg Ala Ala  
1 5

<210> 124  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 124  
Gly Gly Gly Gly Ser Thr  
1 5

- 121 -

<210> 125  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 125  
 Gln Gly Lys Arg  
 1

<210> 126  
 <211> 458  
 <212> PRT  
 <213> Mus Musculus

<400> 126  
 Met Thr Lys Glu Met Thr Glu Asn Gln Arg Leu Cys Pro His Glu Arg  
 1 5 10 15  
 Glu Asp Ala Asp Cys Ser Ser Glu Ser Val Lys Phe Asp Ala Arg Ser  
 20 25 30  
 Met Thr Ala Ser Leu Pro His Ser Thr Lys Asn Gly Pro Ser Val Gln  
 35 40 45  
 Glu Lys Leu Lys Ser Phe Lys Ala Ala Leu Ile Ala Leu Tyr Leu Leu  
 50 55 60  
 Val Phe Ala Val Leu Ile Pro Val Val Gly Ile Val Thr Ala Gln Leu  
 65 70 75 80  
 Leu Asn Trp Glu Met Lys Asn Cys Leu Val Cys Ser Arg Asn Thr Ser  
 85 90 95  
 Asp Thr Ser Gln Gly Pro Met Glu Lys Glu Asn Thr Ser Asn Val Glu  
 100 105 110  
 Met Arg Phe Thr Ile Ile Met Ala His Met Lys Asp Met Glu Glu Arg  
 115 120 125  
 Ile Gln Ser Ile Ser Asn Ser Lys Ala Asp Leu Ile Asp Thr Gly Arg  
 130 135 140  
 Phe Gln Asn Phe Ser Met Ala Thr Asp Gln Arg Leu Asn Asp Ile Leu  
 145 150 155 160  
 Leu Gln Leu Asn Ser Leu Ile Leu Ser Val Gln Glu His Gly Asn Ser  
 165 170 175  
 Leu Asp Ala Ile Ser Lys Ser Leu Gln Ser Leu Asn Met Thr Leu Leu  
 180 185 190  
 Asp Val Gln Leu His Thr Glu Thr Leu His Val Arg Val Arg Glu Ser  
 195 200 205  
 Thr Ala Lys Gln Gln Glu Asp Ile Ser Lys Leu Glu Glu Arg Val Tyr  
 210 215 220

- 122 -

Lys Val Ser Ala Glu Val Gln Ser Val Lys Glu Glu Gln Ala His Val  
 225 230 235 240  
 Glu Gln Glu Val Lys Gln Glu Val Arg Val Leu Asn Asn Ile Thr Asn  
 245 250 255  
 Asp Leu Arg Leu Lys Asp Trp Glu His Ser Gln Thr Leu Lys Asn Ile  
 260 265 270  
 Thr Phe Ile Gln Gly Pro Pro Gly Pro Gln Gly Glu Lys Gly Asp Arg  
 275 280 285  
 Gly Leu Thr Gly Gln Thr Gly Pro Pro Gly Ala Pro Gly Ile Arg Gly  
 290 295 300  
 Ile Pro Gly Val Lys Gly Asp Arg Gly Gln Ile Gly Phe Pro Gly Gly  
 305 310 315 320  
 Arg Gly Asn Pro Gly Ala Pro Gly Lys Pro Gly Arg Ser Gly Ser Pro  
 325 330 335  
 Gly Pro Lys Gly Gln Lys Gly Glu Lys Gly Ser Val Gly Gly Ser Thr  
 340 345 350  
 Pro Leu Lys Thr Val Arg Leu Val Gly Gly Ser Gly Ala His Glu Gly  
 355 360 365  
 Arg Val Glu Ile Phe His Gln Gly Gln Trp Gly Thr Ile Cys Asp Asp  
 370 375 380  
 Arg Trp Asp Ile Arg Ala Gly Gln Val Val Cys Arg Ser Leu Gly Tyr  
 385 390 395 400  
 Gln Glu Val Leu Ala Val His Lys Arg Ala His Phe Gly Gln Gly Thr  
 405 410 415  
 Gly Pro Ile Trp Leu Asn Glu Val Met Cys Phe Gly Arg Glu Ser Ser  
 420 425 430  
 Ile Glu Asn Cys Lys Ile Asn Gln Trp Gly Val Leu Ser Cys Ser His  
 435 440 445  
 Ser Glu Asp Ala Gly Val Thr Cys Thr Ser  
 450 455

&lt;210&gt; 127

&lt;211&gt; 4

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Xaa at position 2 and 4 may be any amino acid  
 except Pro

&lt;220&gt;

<223> Xaa at position 3 may be Ser or Thr

- 123 -

&lt;220&gt;

<223> Description of Artificial Sequence: Amidation  
consensus site

&lt;400&gt; 127

Asn Xaa Xaa Xaa

1

&lt;210&gt; 128

&lt;211&gt; 11

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Consensus  
sequence

&lt;220&gt;

<223> Xaa at position 2 can be between 4 and 14 amino  
acids

&lt;220&gt;

<223> Xaa at position, if present, may be between 0 or 2  
amino acids

&lt;220&gt;

<223> Xaa at position 6 may be between 2 and 4 amino  
acids

&lt;220&gt;

<223> Xaa at position 8 may be between 6 and 12 amino  
acids

&lt;220&gt;

<223> Xaa at position 10 may be between 6 and 10 amino  
acids

&lt;400&gt; 128

Cys Xaa Cys Xaa Cys Xaa Cys Xaa Cys Xaa Cys

1

5

10

&lt;210&gt; 129

&lt;211&gt; 22

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Consensus  
sequence

&lt;220&gt;

<223> Xaa at position 2 may be 4 or 6 amino acids

&lt;220&gt;

<223> Xaa at position 6 may be 5 or 10 amino acids

&lt;220&gt;

<223> Xaa at position 8 may be 0 or 2 amino acids

- 124 -

&lt;220&gt;

&lt;223&gt; Xaa at position 10 may be 7 or 11 amino acids

&lt;220&gt;

&lt;223&gt; Xaa at position 12 may be 4 or 6 amino acids

&lt;400&gt; 129

Cys Xaa Phe Tyr His Xaa Cys Xaa Cys Xaa Cys Xaa Asp Asn Glu Gln  
 1 5 10 15

Ser Lys Pro Xaa Xaa Cys  
 20

&lt;210&gt; 130

&lt;211&gt; 39

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 130

Cys Arg Gln Gln Glu Phe Lys Asp Arg Ser Gly Asn Cys Val Leu Cys  
 1 5 10 15

Lys Gln Cys Gly Pro Gly Met Glu Leu Ser Lys Glu Cys Gly Phe Gly  
 20 25 30

Tyr Gly Glu Asp Ala Gln Cys  
 35

&lt;210&gt; 131

&lt;211&gt; 40

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 131

Cys Arg Pro His Arg Phe Lys Glu Asp Trp Gly Phe Gln Lys Cys Lys  
 1 5 10 15

Pro Cys Ala Asp Cys Ala Leu Val Asn Arg Phe Gln Arg Ala Asn Cys  
 20 25 30

Ser His Thr Ser Asp Ala Val Cys  
 35 40

&lt;210&gt; 132

&lt;211&gt; 39

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 132

Cys Arg Gln Gln Glu Phe Lys Asp Arg Ser Gly Asn Cys Val Leu Cys  
 1 5 10 15

Lys Gln Cys Gly Pro Gly Met Glu Leu Ser Lys Glu Cys Gly Phe Gly  
 20 25 30

- 125 -

Tyr Gly Glu Asp Ala Gln Cys  
35

<210> 133  
<211> 40  
<212> PRT  
<213> Mus musculus

<400> 133  
Cys Arg Pro His Arg Phe Lys Glu Asp Trp Gly Phe Gln Lys Cys Lys  
1 5 10 15

Pro Cys Ala Asp Cys Ala Leu Val Asn Arg Phe Gln Arg Ala Asn Cys  
20 25 30

Ser His Thr Ser Asp Ala Val Cys  
35 40

<210> 134  
<211> 29  
<212> PRT  
<213> Mus musculus

<400> 134  
Met Ala Leu Lys Val Leu Pro Leu His Arg Thr Val Leu Phe Ala Ala  
1 5 10 15

Ile Leu Phe Leu Leu His Leu Ala Cys Lys Val Ser Cys  
20 25

<210> 135  
<211> 29  
<212> PRT  
<213> Mus musculus

<400> 135  
Met Ala Leu Lys Val Leu Pro Leu His Arg Thr Val Leu Phe Ala Ala  
1 5 10 15

Ile Leu Phe Leu Leu His Leu Ala Cys Lys Val Ser Cys  
20 25

<210> 136  
<211> 25  
<212> PRT  
<213> Mus musculus

<400> 136  
Ala Leu Ala Ala Val Ile Cys Ser Ala Leu Ala Thr Val Leu Leu Ala  
1 5 10 15

Leu Leu Ile Leu Cys Val Ile Tyr Cys  
20 25

- 126 -

<210> 137  
 <211> 31  
 <212> PRT  
 <213> Homo sapiens

<400> 137  
 Thr Leu Phe Val Pro Ser Val Tyr Thr Gly Val Phe Val Val Ser Leu  
     1                    5                    10                    15  
 Pro Leu Asn Ile Met Ala Ile Val Val Phe Ile Leu Lys Met Lys  
                     20                    25                    30

<210> 138  
 <211> 31  
 <212> PRT  
 <213> Homo sapiens

<400> 138  
 Phe Ser Met Leu Ala Ala Tyr Met Phe Leu Leu Ile Val Leu Gly Phe  
     1                    5                    10                    15  
 Pro Ile Asn Phe Leu Thr Leu Tyr Val Thr Val Gln His Lys Lys  
                     20                    25                    30

<210> 139  
 <211> 31  
 <212> PRT  
 <213> Rattus Norvegicus

<400> 139  
 Val Ala Phe Ile Gly Ile Thr Thr Gly Leu Leu Ser Leu Ala Thr Val  
     1                    5                    10                    15  
 Thr Gly Asn Leu Leu Val Leu Ile Ser Phe Lys Val Asn Thr Glu  
                     20                    25                    30

<210> 140  
 <211> 31  
 <212> PRT  
 <213> Homo sapiens

<400> 140  
 Lys Tyr Val Val Ile Ile Ala Tyr Ala Leu Val Phe Leu Leu Ser Leu  
     1                    5                    10                    15  
 Leu Gly Asn Ser Leu Val Met Leu Val Ile Leu Tyr Ser Arg Val  
                     20                    25                    30

<210> 141  
 <211> 31  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 141  
 Ala Leu Leu Thr Ala Leu Val Leu Ser Val Ile Ile Val Leu Thr Ile  
     1                    5                    10                    15

Ile Gly Asn Ile Leu Val Ile Leu Ser Val Phe Thr Tyr Lys Pro  
20 25 30

```
<210> 142
<211> 28
<212> PRT
<213> Homo sapiens
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<400> 142  
Val Val Tyr Met Leu His Leu Ala Thr Ala Asp Val Leu Phe Val Ser  
1 5 10 15

Val Leu Pro Phe Lys Ile Ser Tyr Tyr Phe Ser Gly  
20 25

```
<210> 143
<211> 28
<212> PRT
<213> Homo sapiens
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<400> 143  
Asn Tyr Ile Leu Leu Asn Leu Ala Val Ala Asp Leu Phe Met Val Leu  
1 5 10 15

Gly Gly Phe Thr Ser Thr Leu Tyr Thr Ser Leu His  
20 25

```
<210> 144
<211> 28
<212> PRT
<213> Rattus Norvegicus
```

<400> 144  
Asn Tyr Phe Leu Leu Ser Leu Ala Cys Ala Asp Leu Ile Ile Gly Thr  
1 5 10 15

Phe Ser Met Asn Leu Tyr Thr Thr Tyr Leu Leu Met  
20 25

```
<210> 145
<211> 28
<212> PRT
<213> Homo sapiens
```

<400> 145  
Asp Val Tyr Leu Leu Asn Leu Ala Leu Ala Asp Leu Leu Phe Ala Leu  
1 5 10 15

Thr Leu Pro Ile Trp Ala Ala Ser Lys Val Asn Gly  
20 25

- 128 -

<210> 146  
 <211> 28  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 146  
 Asn Phe Phe Ile Val Ser Leu Ala Val Ala Asp Leu Thr Val Ala Leu  
     1                    5                    10                    15  
 Leu Val Leu Pro Phe Asn Val Ala Tyr Ser Ile Leu  
                     20                    25

<210> 147  
 <211> 25  
 <212> PRT  
 <213> Homo sapiens

<400> 147  
 Arg Phe Val Thr Ala Ala Phe Tyr Cys Asn Met Tyr Ala Ser Ile Leu  
     1                    5                    10                    15  
 Leu Met Thr Val Ile Ser Ile Asp Arg  
                     20                    25

<210> 148  
 <211> 25  
 <212> PRT  
 <213> Homo sapiens

<400> 148  
 Asn Leu Glu Gly Phe Phe Ala Thr Leu Gly Gly Glu Ile Ala Leu Trp  
     1                    5                    10                    15  
 Ser Leu Val Val Leu Ala Ile Glu Arg  
                     20                    25

<210> 149  
 <211> 25  
 <212> PRT  
 <213> Rattus Norvegicus

<400> 149  
 Asp Leu Trp Leu Ala Leu Asp Tyr Val Ala Ser Asn Ala Ser Val Met  
     1                    5                    10                    15  
 Asn Leu Leu Leu Ile Ser Phe Asp Arg  
                     20                    25

<210> 150  
 <211> 25  
 <212> PRT  
 <213> Homo sapiens

<400> 150  
 Lys Val Val Ser Leu Leu Lys Glu Val Asn Phe Tyr Ser Gly Ile Leu  
     1                    5                    10                    15

- 129 -

Leu Leu Ala Cys Ile Ser Val Asp Arg  
                   20                  25

&lt;210&gt; 151

&lt;211&gt; 25

&lt;212&gt; PRT

&lt;213&gt; Drosophila melanogaster

&lt;400&gt; 151

Lys Leu Trp Leu Thr Cys Asp Val Leu Cys Cys Thr Ser Ser Ile Leu  
   1                  5                  10                  15

Asn Leu Cys Ala Ile Ala Leu Asp Arg  
                   20                  25

&lt;210&gt; 152

&lt;211&gt; 27

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 152

Thr Leu Gly Arg Ala Ser Phe Thr Cys Leu Ala Ile Trp Ala Leu Ala  
   1                  5                  10                  15

Ile Ala Gly Val Val Pro Leu Val Leu Lys Glu  
                   20                  25

&lt;210&gt; 153

&lt;211&gt; 27

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 153

Gly Glu Asn His Ala Ile Met Gly Val Ala Phe Thr Trp Val Met Ala  
   1                  5                  10                  15

Leu Ala Cys Ala Ala Pro Pro Leu Ala Gly Trp  
                   20                  25

&lt;210&gt; 154

&lt;211&gt; 27

&lt;212&gt; PRT

&lt;213&gt; Rattus Norvegicus

&lt;400&gt; 154

Thr Pro Arg Arg Ala Ala Leu Met Ile Gly Leu Ala Trp Leu Val Ser  
   1                  5                  10                  15

Phe Val Leu Trp Ala Pro Ala Ile Leu Phe Trp  
                   20                  25

- 130 -

<210> 155  
 <211> 27  
 <212> PRT  
 <213> Homo sapiens

<400> 155  
 Lys Arg His Leu Val Lys Phe Val Cys Leu Gly Cys Trp Gly Leu Ser  
   1                  5                  10                  15  
 Met Asn Leu Ser Leu Pro Phe Phe Leu Phe Arg  
                   20                  25

<210> 156  
 <211> 27  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 156  
 Thr Val Gly Arg Val Leu Leu Leu Ile Ser Gly Val Trp Leu Leu Ser  
   1                  5                  10                  15  
 Leu Leu Ile Ser Ser Pro Pro Leu Ile Gly Trp  
                   20                  25

<210> 157  
 <211> 29  
 <212> PRT  
 <213> Homo sapiens

<400> 157  
 Ala Tyr Tyr Phe Ser Ala Phe Ser Ala Val Phe Phe Phe Val Pro Leu  
   1                  5                  10                  15  
 Ile Ile Ser Thr Val Cys Tyr Val Ser Ile Ile Arg Cys  
                   20                  25

<210> 158  
 <211> 29  
 <212> PRT  
 <213> Homo sapiens

<400> 158  
 Glu Ser Phe Val Ile Tyr Met Phe Val Val His Phe Thr Ile Pro Met  
   1                  5                  10                  15  
 Ile Ile Ile Phe Phe Cys Tyr Gly Gln Leu Val Phe Thr  
                   20                  25

<210> 159  
 <211> 29  
 <212> PRT  
 <213> Rattus Norvegicus

<400> 159  
 Pro Ile Ile Thr Phe Gly Thr Ala Met Ala Ala Phe Tyr Leu Pro Val  
   1                  5                  10                  15

```
<210> 160
<211> 29
<212> PRT
<213> Homo sapiens
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Phe Val Met Leu Phe Cys Tyr Gly Phe Thr Leu Arg Thr  
20 25

<400> 161  
Arg Gly Tyr Val Ile Tyr Ser Ser Leu Gly Ser Phe Phe Ile Pro Leu  
1 5 10 15

```
<210> 162
<211> 28
<212> PRT
<213> Homo sapiens
```

Thr Asn Val Leu Leu Ile Ala His Tyr Ser Phe Leu  
20 25

```
<210> 163
<211> 28
<212> PRT
<213> Homo sapiens
```

Tyr Ala Ser Val Ala Phe Tyr Ile Phe Thr His Gln  
20 25

- 132 -

<210> 164  
 <211> 28  
 <212> PRT  
 <213> Rattus Norvegicus

<400> 164  
 Arg Thr Leu Ser Ala Ile Leu Leu Ala Phe Ile Leu Thr Trp Thr Pro  
   1                  5                  10                  15  
 Tyr Asn Ile Met Val Leu Val Ser Thr Phe Cys Lys  
                   20                  25

<210> 165  
 <211> 28  
 <212> PRT  
 <213> Homo sapiens

<400> 165  
 Arg Val Ile Phe Ala Val Val Leu Ile Phe Leu Leu Cys Trp Leu Pro  
   1                  5                  10                  15  
 Tyr Asn Leu Val Leu Leu Ala Asp Thr Leu Met Arg  
                   20                  25

<210> 166  
 <211> 28  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 166  
 Arg Thr Leu Gly Ile Ile Met Gly Val Phe Val Ile Cys Trp Leu Pro  
   1                  5                  10                  15  
 Phe Phe Leu Met Tyr Val Ile Leu Pro Phe Cys Gln  
                   20                  25

<210> 167  
 <211> 33  
 <212> PRT  
 <213> Homo sapiens

<400> 167  
 Glu Ala Ala Tyr Phe Ala Tyr Leu Leu Cys Val Cys Val Ser Ser Ile  
   1                  5                  10                  15  
 Ser Ser Cys Ile Asp Pro Leu Ile Tyr Tyr Tyr Ala Ser Ser Glu Cys  
                   20                  25                  30  
 Gln

<210> 168  
 <211> 33  
 <212> PRT  
 <213> Homo sapiens

- 133 -

&lt;400&gt; 168

Asn	Phe	Gly	Pro	Ile	Phe	Met	Thr	Ile	Pro	Ala	Phe	Phe	Ala	Lys	Ser
1				5					10					15	

Ala	Ala	Ile	Tyr	Asn	Pro	Val	Ile	Tyr	Ile	Met	Met	Asn	Lys	Gln	Phe
		20					25						30		

Arg

&lt;210&gt; 169

&lt;211&gt; 33

&lt;212&gt; PRT

&lt;213&gt; Rattus Norvegicus

&lt;400&gt; 169

Cys	Val	Pro	Glu	Thr	Leu	Trp	Glu	Leu	Gly	Tyr	Trp	Leu	Cys	Tyr	Val
1				5					10					15	

Asn	Ser	Thr	Val	Asn	Pro	Met	Cys	Tyr	Ala	Leu	Cys	Asn	Lys	Ala	Phe
			20					25					30		

Arg

&lt;210&gt; 170

&lt;211&gt; 33

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 170

Asn	Asn	Ile	Gly	Arg	Ala	Leu	Asp	Ala	Thr	Glu	Ile	Leu	Gly	Phe	Leu
1				5					10					15	

His	Ser	Cys	Leu	Asn	Pro	Ile	Ile	Tyr	Ala	Phe	Ile	Gly	Gln	Asn	Phe
			20					25					30		

Arg

&lt;210&gt; 171

&lt;211&gt; 33

&lt;212&gt; PRT

&lt;213&gt; Drosophila melanogaster

&lt;400&gt; 171

Cys	Pro	Thr	Asn	Lys	Phe	Lys	Asn	Phe	Ile	Thr	Trp	Leu	Gly	Tyr	Ile
1				5					10					15	

Asn	Ser	Gly	Leu	Asn	Pro	Val	Ile	Tyr	Thr	Ile	Phe	Asn	Leu	Asp	Tyr
			20					25					30		

Arg

- 134 -

<210> 172  
 <211> 174  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: 7  
 transmembrane receptor consensus sequence

<400> 172  
 Gly Asn Ile Leu Val Ile Trp Val Ile Cys Arg Tyr Arg Arg Met Arg  
     1                    5                    10                    15  
 Thr Pro Met Asn Tyr Phe Ile Val Asn Leu Ala Val Ala Asp Leu Leu  
                     20                    25                    30  
 Phe Ser Leu Phe Thr Met Pro Phe Trp Met Val Tyr Tyr Val Met Gln  
                     35                    40                    45  
 Gly Arg Trp Pro Phe Gly Asp Phe Met Cys Arg Ile Trp Met Tyr Phe  
                     50                    55                    60  
 Asp Tyr Met Asn Met Tyr Ala Ser Ile Phe Phe Leu Thr Cys Ile Ser  
                     65                    70                    75                    80  
 Ile Asp Arg Tyr Leu Trp Ala Ile Cys His Pro Met Arg Tyr Met Arg  
                     85                    90                    95  
 Trp Met Thr Pro Arg His Arg Ala Trp Val Met Ile Ile Ile Ile Trp  
                     100                    105                    110  
 Val Met Ser Phe Leu Ile Ser Met Pro Pro Phe Leu Met Phe Arg Trp  
                     115                    120                    125  
 Ser Thr Tyr Arg Asp Glu Asn Glu Trp Asn Met Thr Trp Cys Met Ile  
                     130                    135                    140  
 Tyr Asp Trp Pro Glu Trp Met Trp Arg Trp Tyr Val Ile Leu Met Thr  
                     145                    150                    155                    160  
 Ile Ile Met Gly Phe Tyr Ile Pro Met Ile Ile Met Leu Phe  
                     165                    170

<210> 173  
 <211> 168  
 <212> PRT  
 <213> Homo sapiens

<400> 173  
 Ala Asn Ala Trp Gly Ile Leu Ser Val Gly Ala Lys Gln Lys Lys Trp  
     1                    5                    10                    15  
 Lys Pro Leu Glu Phe Leu Leu Cys Thr Leu Ala Ala Thr His Met Leu  
                     20                    25                    30  
 Asn Val Ala Val Pro Ile Ala Thr Tyr Ser Val Val Gln Leu Arg Arg  
                     35                    40                    45

- 135 -

Gln Arg Pro Asp Phe Glu Trp Asn Glu Gly Leu Cys Lys Val Phe Val  
 50 55 60  
 Ser Thr Phe Tyr Thr Leu Thr Leu Ala Thr Cys Phe Ser Val Thr Ser  
 65 70 75 80  
 Leu Ser Tyr His Arg Met Trp Met Val Cys Trp Pro Val Asn Tyr Arg  
 85 90 95  
 Leu Ser Asn Ala Lys Lys Gln Ala Val His Thr Val Met Gly Ile Trp  
 100 105 110  
 Met Val Ser Phe Ile Leu Ser Ala Leu Pro Ala Val Gly Trp His Asp  
 115 120 125  
 Thr Ser Glu Arg Phe Tyr Thr His Gly Cys Arg Phe Ile Val Ala Glu  
 130 135 140  
 Ile Gly Leu Gly Phe Gly Val Cys Phe Leu Leu Leu Val Gly Gly Ser  
 145 150 155 160  
 Val Ala Met Gly Val Ile Cys Thr  
 165

&lt;210&gt; 174

&lt;211&gt; 106

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Consensus  
sequence

&lt;400&gt; 174

Ile Gln Glu Arg Met Asn Glu Leu Asn Asp Arg Trp Glu Arg Leu Lys  
 1 5 10 15

Glu Leu Met Glu Gln Arg Arg Gln Met Leu Glu Asp Ser Met Arg Leu  
 20 25 30

Gln Gln Phe Phe Arg Asp Met Asp Glu Glu Glu Ser Trp Ile Asn Glu  
 35 40 45

Lys Glu Gln Ile Leu Asn Ser Asp Asp Tyr Gly Lys Asp Leu Thr Ser  
 50 55 60

Val Gln Asn Leu Leu Lys Lys His Gln Ala Phe Glu Ala Asp Ile Ala  
 65 70 75 80

Ala His Glu Asp Arg Ile Gln Ala Leu Asn Glu Phe Ala Gln Gln Leu  
 85 90 95

Ile Gln Glu Asn His Tyr Ala Ser Glu Glu  
 100 105

- 136 -

<210> 175  
<211> 107  
<212> PRT  
<213> Homo sapiens

<400> 175  
Phe Ser Ser Leu Arg Ala Asp Ala Ser Ala Pro Trp Met Ala Leu Cys  
1 5 10 15  
Val Leu Trp Cys Ser Val Ala Gln Ala Leu Leu Leu Pro Val Phe Leu  
20 25 30  
Trp Ala Cys Asp Arg Tyr Arg Ala Asp Leu Lys Ala Val Arg Glu Lys  
35 40 45  
Cys Met Ala Leu Met Ala Asn Asp Glu Glu Ser Asp Asp Glu Thr Ser  
50 55 60  
Leu Glu Gly Gly Ile Ser Pro Asp Leu Val Leu Glu Arg Ser Leu Asp  
65 70 75 80  
Tyr Gly Tyr Gly Gly Asp Phe Val Ala Leu Asp Arg Met Ala Lys Tyr  
85 90 95  
Glu Ile Ser Ala Leu Glu Gly Gly Leu Pro Gln  
100 105

<210> 176  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Xaa at position 2 may be any amino acide except:  
Glu, Asp, Arg, Lys, His, Phe, Pro, Tyr, or Trp

<220>  
<223> Xaa at position 5 may be ser, Thr, Ala, Gly, Cys  
or Asn

<220>  
<223> Xaa at position 6 may be any amino acid except Pro

<220>  
<223> Description of Artificial Sequence: Amidation  
consensus site

<400> 176  
Gly Xaa Xaa Xaa Xaa Xaa  
1 5